

Exchange change Microsoft is revamping its messaging road map and revisiting its overall software support plan. **PAGE 8.**

Wireless control Computer Associates touts a tool that will let customers manage wired and wireless assets. **PAGE 10.**

NetworkWorld

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May 31, 2004 ■ Volume 21, Number 22

From: Admin [mailto:support@citibank.com]
Sent: Saturday, April 24, 2004 8:35 PM
To: jsmith@yahoo.com
Subject: Citibank Account Update

Dear Citibank member,
As part of our continuing commitment to protect your account and to reduce the instance of fraud on our Web site, we are undertaking a period review of our member accounts.
You are requested to visit our site, logon to your account and fill in the required information.

PHISHING

This e-mail is an example of phishing, in which scammers try to trick people into giving up credit card information. The phishing phenomenon is damaging the credibility of online brands, and threatens the trust relationship at the heart of e-commerce. **Page 35**

Future of IOS may be seen in Cisco's new core router

■ BY JIM DUFFY

MOUNTAIN VIEW, CALIF. — Cisco's unveiling last week of a new core router marks a technological rebirth for the company 20 years after it introduced the

world to commercial routing.

The CRS-1 router, introduced at a glitzy gathering in Mountain View, signals a departure from Cisco's traditional reliance on its aged yet ageless IOS software

See CRS, page 13

Big chill for chips

■ BY DENI CONNOR

HP, Intel and a handful of start-ups are among those working feverishly to keep ever-more-powerful server processors from becoming too hot to handle.

While the problem is not new,

time has become of the essence in solving it, as chips just one-eighth-inch square soon will emit as much heat as a 100-watt light bulb, HP says.

Start-ups Cool Chips, Cooligy, Thorrn Micro Technologies, iCurie Lab and NanoCoolers are using nanotechnology to deal with the heat that results from cramming more components into smaller spaces.

High heat density from processors means high heat loads in servers. In turn, deploying a large number of servers in data centers leads to cooling challenges.

Cool Chips has designed a waferlike device in which a "cool chip" is placed less than 10 nm above the processor. When the gap is that small, electrons can tunnel across the gap using quantum mechanics.

The gap insulates so that heat doesn't return back through the

See Cool, page 14

Users also taking steps to dial down server heat

■ BY DENI CONNOR AND JENNIFER MEARS

As server vendors roll out systems that are increasingly powerful — and increasingly small — IT managers need to consider the heat output and power demands of new configurations that pack more processing power into less space.

In the past, companies could feel comfortable installing more air conditioning units in data centers as their cooling needs grew. But as servers become

See Environmental, page 49

A Wider Net



VC feeding frenzy over, Buck's keeps cookin'

Restaurant's spot in high-tech history sealed in memoirs of Pancake Guy.

■ BY LINDA LEUNG

The Hollywood set might like to do lunch at fancy restaurants in Beverly Hills but Silicon Valley venture capitalists prefer to seal multimillion-dollar deals over a breakfast burrito at Buck's of Woodside.

The 13-year-old restaurant is so revered as the spot where Netscape was founded, and HotJobs and PayPal got funded, that

See Buck's, page 16

Tester's Challenge: VoIP security tools are lacking



Better education and interfaces also needed.


■ BY EDWIN MIER, NETWORK WORLD LAB ALLIANCE

In last week's Clear Choice Test on VoIP security (www.nwfusion.com, DocFinder: 2229), in which we set hackers loose on IP telephony configurations from Cisco and Avaya, I got to play referee in this first-of-its-kind product testing. I was privy to how the hackers planned to attack and how the vendors planned to defend against them. Imagine wearing a zebra-striped shirt on Omaha Beach on D-day.

As it turned out, more Cisco security gurus showed up than we had hackers. I figured that was for psychological effect, but I was only partly right. Over the course of the testing I saw the scope and breadth of settings and interfaces involved in configuring and tuning the gamut of Cisco's security stuff. Mind-boggling is an understatement.

See VoIP, page 17





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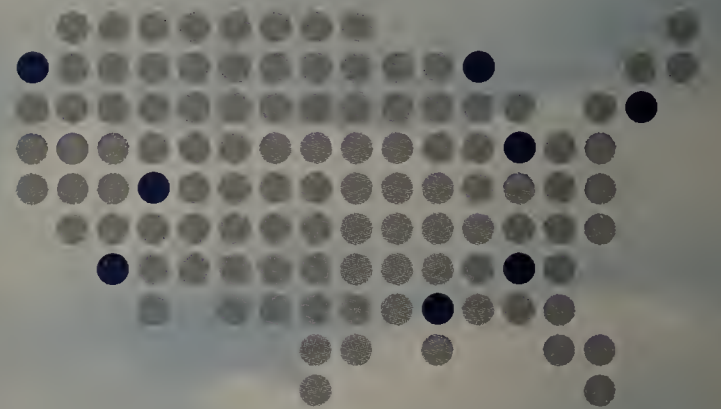
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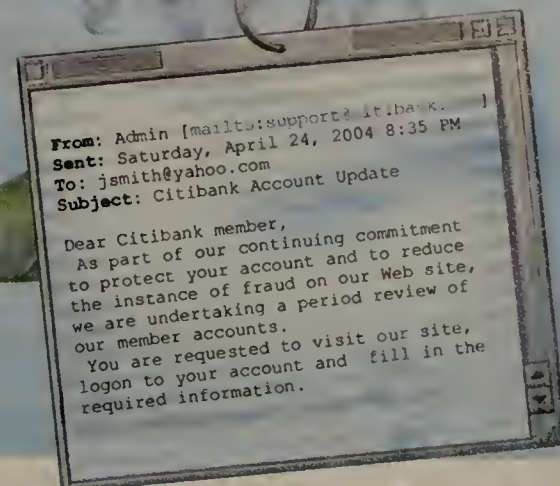
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Phear of Phishing: E-mail scams, known as phishes, are becoming more sophisticated every day. This phish tries to trick Hotmail users into giving up their credit card information. The phishing phenomenon is damaging the credibility of online brands and threatens the trust relationship at the heart of e-commerce. **Page 35.**



CLEAR CHOICE TEST

QLogic's SANbox 5200

QLogic's SANbox 5200 is an easy-to-install storage-area network switch that features strong management tools. **Page 39.**



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Exclusive

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From what it is to how to get started, get all you need to know on Session Initiation Protocol via five exclusive white papers (scroll down). **DocFinder: 2055**

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Columnists

Wireless Wizards

How do we minimize the impact of jamming? The Wizards answer a reader who asks: "Should we be concerned with radio frequency jamming?" **DocFinder: 2234**

Telework Beat

Government telework makes modest gains
NetWorker Managing Editor Toni Kistner says new federal report hints that non-compliant agencies will be held accountable for falling short of telework goals. **DocFinder: 2235**

Technology Partners

You can take it with you
Chuck Sharp of the Information Technology Solution Providers Alliance says replacing aging PCs with wireless machines can yield new levels of productivity. **DocFinder: 2236**

Small Business Tech

Remote-access recipes, Part 2
Columnist James Gaskin shows you how to get to your files using tools you already own. **DocFinder: 2237**

Home Base

Preventing an instant mess
Columnist Steve Ulfelder introduces you to free software that encrypts your IM communication. **DocFinder: 2238**

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Tips for the job search if you're the victim of downsizing. Page 40



News

Bits

'Buffalo Spammer' headed for slammer

■ A New York man convicted of using the network of ISP EarthLink to send out hundreds of millions of spam messages was sentenced to three-and-a-half to seven years in prison last week. Howard Carmack of Buffalo, aka the Buffalo Spammer, was found guilty in April by a jury in Erie County, N.Y., on 14 counts, including charges that he stole the identity of two Buffalo-area residents, which he then used to send out more than 800 million spams. The sentence is the first obtained following a conviction that used the state's identity theft law. The criminal case followed a civil suit against Carmack by EarthLink that resulted in a \$16 million award against Carmack in May 2003. The jail sentence is the maximum allowed under the law, because of Carmack's prior felony conviction for fraud in a federal case involving fake money orders.

PeopleSoft rebuffs Oracle . . . again

■ PeopleSoft's board of directors last week rejected Oracle's latest unsolicited offer to buy the enterprise resource management software company. PeopleSoft also announced that it has settled a number of class action suits filed against it in connection with Oracle's bid. Oracle's latest offer, made earlier this month, was \$21 per share, or approximately \$7.7 billion. It was \$5 per share lower than Oracle's previous offer of \$9.4 billion, and like Oracle's three previous offers, it was flatly rejected by the PeopleSoft board. Separately, PeopleSoft announced that it had signed a memorandum of understanding to settle class action lawsuits filed in Delaware and California by PeopleSoft stockholders unhappy with the company's Customer Assurance Program. Created after Oracle launched its hostile takeover campaign, the program offered to pay PeopleSoft customers refunds for their software licenses if PeopleSoft's products were discontinued.

Core switch maker Equipe closes shop

■ Equipe Communications, a start-up maker of multi-service core switches, shut down last week. Equipe had been on thin ice. The company never generated any revenue

"You know that video from your Vegas trip? I got it right here."

Layer 8

What happens in Vegas, stays in Vegas, unless you think like this week's winner, Dale Worley of Hyattsville, Md.

Check out our Caption Contest each week to win fantastic Fusion prizes. <http://www.nwfusion.com/weblogs/layer8>

**The Good The Bad The Ugly****Plugged into the government.**

Government efforts to make resources available to U.S. citizens online are paying off, according to a new report from the Pew Internet & American Life Project. Use of e-government — either in the form of e-mailing government officials or accessing Web sites — increased 50% from 2002 to 2003, according to the telephone survey of nearly 3,000 people. ➤



Seeing purple. Oculan, a 3-year-old company whose purple boxes are used to manage and secure small and midsize networks, is fading to black. The company says it is ceasing operations and letting 50 employees go, the result of not being able to secure new funding needed to bring Oculan to profitability. Just a few weeks ago, the Raleigh, N.C., company announced a new version of its products.



Bernie's back. U.S. prosecutors last week piled six more counts onto the indictment of former WorldCom CEO Bernie Ebbers, who is slated to face trial in November. The new charges relate to alleged false document filings with the Securities and Exchange Commission. In March, Ebbers was hit with several charges stemming from the carrier's \$11 billion accounting scandal.

because of the lack of demand for core ATM/Multi-protocol Label Switching switches as carriers selected routers for the core of their multi-service networks and switches for the edge. Equipe had to watch from the sidelines as bigger companies acquired some of its multi-service edge switch brethren. Another multi-service core switch start-up, Tenor Networks, also shuttered operations last year because of the lack of demand for that type of product.

NEC unit admits to defrauding government

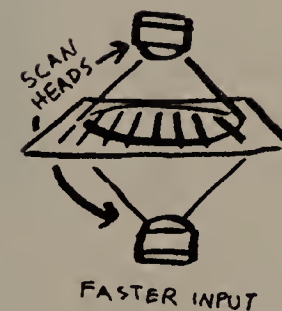
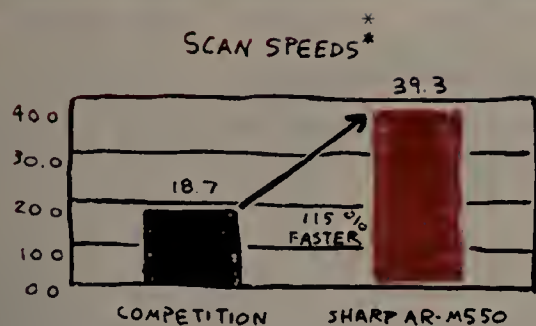
■ NEC-Business Network Solutions, a unit of NEC America, last week admitted defrauding a government program to help needy schools use the Internet. Under a plea agreement, the company will pay \$20.6 million in fines, civil settlements and restitution, the Department of Justice announced last week. NEC-BNS was charged with collusion and wire fraud in the FCC's E-Rate program, which uses money from telecom user fees to fund schools' Internet use. Under the program, schools apply for funds to cover cabling, Internet equipment and monthly connectivity fees. The company allocated contracts and rigged bids in violation of the Sherman Antitrust Act at school districts in Michigan, Wisconsin, Arkansas and South Carolina, according to the Justice Department.

Glitch leaves shoppers seeing double

■ Supermarket chain Winn-Dixie Stores of Jacksonville, Fla., last week suffered a system-wide malfunction of its electronic payments-processing system that caused its debit system to double-bill customers for their grocery buys. Winn-Dixie says it corrected the problem within a day but was compelled to place signs across its stores and on its Web site to advise customers of the glitch, asking them to check their bank statements for errors.

New virus targets 64-bit Windows

■ Symantec has captured an example of what is believed to be the first virus that targets 64-bit Microsoft Windows operating systems. The company posted a security advisory for W64.Rugrat.3344 on its Web page on May 27. The virus is rated low threat and does not appear to be spreading on the Internet, Symantec said. Instead, Rugrat is believed to be a proof-of-concept virus written by the same author of at least six other virus "firsts."



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Microsoft detours Exchange direction

■ BY JOHN FONTANA

SAN DIEGO — Microsoft last week released the first service pack for Exchange Server 2003 and a corresponding set of free utilities. But company officials revealed that the road map for the messaging software is under reconstruction.

Microsoft said at its annual Tech Ed conference it is scrapping a planned version of Exchange code-named Kodiak, which was to be released in 2006, and instead will roll out some of Kodiak's features individually over time. The company says it does not plan to disclose a new ship date for a future version of Exchange until the fall.

The first feature Microsoft will release from Kodiak is Edge Services, an intelligent message transfer agent for the edge of the network that offers security, spam and virus protection. Edge Services is expected to ship next year.

Edge Services is just one of three modules, or "roles," for Ex-

change server, according to Dave Thompson, corporate vice president for Microsoft who took over responsibility for Exchange in January.

The other two roles are Information Worker Experiences, which include client options for Outlook, Web and devices; and Storage Services, which will include back-up/recovery and a high-availability storage infrastructure. With Kodiak, that infrastructure was to be built on Microsoft's Yukon technology, which is scheduled to debut in SQL Server 2005. Thompson said the future Exchange data store likely will be built on a database, but offered no firm commitments.

Microsoft also plans to add support across the three roles for a consistent set of management tools and for .Net, which will let Exchange offer Web services such as a user's calendar information. Microsoft plans to keep Exchange's MAPI interface, which lets clients talk to the mail server.

The three distinct Exchange roles will let Microsoft roll out individual features and upgrades to the server in a more modular fashion, experts say.

"An important part of the future is trying to make Exchange a better product by decoupling the features in the server," says Peter Pawlak, an analyst with research firm Directions on Microsoft. "By decoupling they could release a new feature for the server before releasing [a new version] of the core server."

The model is similar to the recently released Windows Server System road map, which includes interim update releases between major version upgrades that will ship on a four-year cycle.

Conceptually, the model seems to appeal to users.

"I would like to get technology upgrades in smaller chunks that are not considered major releases," says Pius Oleskey, network operations manager for K2 Sports, a sports equipment manufacturer in Vashon Island, Wash. "The major releases I want spread out because if they aren't I have to be thinking about my next version upgrade while I am rolling out the current version."

Vague direction

After 2005, the road map gets more nebulous. Microsoft's Thompson says the vendor will enhance features such as calendaring, mobility, security and manageability. There also are plans to support Longhorn Server, which is slated to ship in 2007; 64-bit platforms; and the Windows Server System Common Engineering Criteria model, a plan to introduce consistent management, installation and patching technology across Microsoft's lineup of server software.

Despite the vague road map, Microsoft's Thompson took a shot at rival IBM Lotus, saying it doesn't have a clear road map.

Ed Brill, who examines rivals' technologies as manager of Lotus' competitive project office, fired back: "I don't know how he can say we don't have a clear road map; we're shipping Notes 7 in the first quarter next year. They laid out their own road map in very general terms. What is the future? They have their heads in the sand because they had committed to shipping in 2003 Kodiak with an SQL Server back end." ■

Exchange enhancements

Microsoft last week released new tools for its Exchange Server 2003 messaging software.

New for Exchange	Description
Intelligent Message Filter	Determines whether each incoming message is likely to be spam and allows for blocking at the gateway or mailbox store.
Service Pack 1	Includes manageability features, tools for Exchange 5.5 cross-site mailbox moves, a recovery storage group wizard and incremental snapshot support for Volume Shadow Copy Services.
Free tools	Includes Outlook/Exchange profile update tool, Outlook Web Access administrator tool, management pack configuration wizard, and domain rename fix-up. Available at microsoft.com/exchange/downloads/2003.asp .

SonicWall bolsters Wi-Fi security

■ BY TIM GREENE

SonicWall is introducing its own Wi-Fi access point that can make it easier for customers to deploy and manage secure wireless networks.

The company's SonicPoint access device sits between wireless laptops and SonicWall Pro firewall/gateway appliances and can secure transmissions using two security protocols: Wi-Fi Protected Access (WPA) or Wired Equivalent Privacy (WEP). Alternatively, customers could add IPsec VPN tunneling from laptops to the firewall/gateway, and SonicWall's Global Management System software could manage all three security options. The firewall/gateway appliances also block unauthorized users from accessing the corporate network.

The new gear will make it simpler to deploy wireless coverage in buildings with more than two access points because the access points can all be connected to the same gateway, says Joe Sykora, an integrator with Innerspace, which sells SonicWall gear to businesses. Because a VPN tunnel has been set up through the access point, a roaming user can move from one access point to another and the VPN appliance will keep alive the VPN tunnel session, he says. Users don't have to log on again when they move.

Running VPNs to protect wireless networks can have an advantage over WEP and WPA, says Jason Wright, an analyst with Forrester Research. IPsec is a stable standard, whereas standards surrounding the authentication for the others still are evolving, he says.

He says that support for multiple security zones in the firewall appliances can be used to create internal security between different groups of wireless users within a corporation. So a firewall rule could limit access of the mobile members of the marketing department so they cannot reach human resources servers, for example.

SonicWall competes most directly against WatchGuard Technologies for low-cost VPN appliances for small and midsize businesses, but WatchGuard has no competing wireless access point. Each company has an appliance for home offices that integrates a wireless access point with a firewall/VPN in one box. Vendors of gear for large corporations such as Cisco offer similar equipment at higher prices.

SonicPoint supports Power over Ethernet (PoE), so there are no power cables for the devices. For businesses that don't have PoE switches, SonicWall also is introducing a power injector that adds power to the line. SonicWall also sells a wireless card that supports 802.11a, b and g.

SonicPoint costs \$300. The PoE injector costs \$95 and the wireless cards cost \$150. ■

Microsoft stretches support

SAN DIEGO — Microsoft this week will extend by three years its current software support program, which provides hot fixes and telephone support to corporate users.

Microsoft's product life-cycle program, which the company introduced in October 2002, provides five years of free mainstream support and two years of extended support, which lets users pay for those same services. The new program stretches the extended support to five years.

The program also includes a clause that will ensure mainstream support is available on a product for two years after the next version of that product ships. The clause could extend mainstream support beyond five years in some cases.

The changes are part of an ongoing effort to refine licensing and support services that have not lived up to customer expectations.

"Customers said the five-year/two-year cycle wasn't long enough for their budget cycles," says Peter Houston, senior director for product support services at Microsoft. "They wanted to see more predictability."

Ironically, Microsoft began the product life-cycle program to provide that predictability but has been forced to stretch support on several products, such as Windows 98, Exchange and Windows NT, which has undercut the program's credibility.

The new 10-year model is designed to eliminate those helter-skelter extensions. It will cover products shipped in the past five years, excluding consumer software, hardware and business solutions software. Business software, such as Great Plains, is covered under a separate life-cycle program.

The program also alters support on service packs, providing one year of support after the next sequential service pack ships. For complex service packs, such as Windows XP Service Pack 2, Microsoft will provide two years of support.

— John Fontana

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CA bringing WLAN mgmt. into its fold

Company lays out plans for Unicenter Wireless Site Management, new software delivery options.

■ BY DENISE DUBIE

LAS VEGAS — For the past year, Maurice Ficklin quietly has used Computer Associates Unicenter software to manage, optimize and secure the 141-acre wireless LAN network at the University of Arkansas at Pine Bluff.

At the same time, CA has been very publicly struggling with federal investigations into its accounting practices, an executive management overhaul and speculation about the company's future.

Last week, Ficklin, director of technical services and a CA beta customer, helped the company at its annual user conference unveil the fruits of their joint labor: Unicenter Wireless Site Management, a beta product

that uses server and agent software to discover WLAN users and devices, monitor performance and bandwidth, and secure access to wireless networks.

Ficklin is working with CA and Intel to develop a software-loaded appliance that automatically would provision wireless devices and authorize their use. He remains unfazed by CA's corporate goings-on and says he will continue to stand by the company's flagship technology.

"CA came to us to test out the wireless beta piece, and we wanted to bring our wireless net under our Unicenter umbrella," Ficklin says. "Unicenter overlays our entire network, so it's important to us that any new management software works with the [network and systems manage-

ment] piece."

CA is the first of the top four management vendors — BMC Software, HP and IBM — to address WLAN management. WLAN vendors such as Cisco and niche players such as BlueSocket and Roving Planet offer WLAN statistics and management capabilities, respectively, but the typical enterprise IT manager will want a converged tool to see wired and wireless assets, says Stephen Elliot, a senior analyst at IDC.

"Customers will want to keep existing management and security policies already in place and extend them to wireless," he says. "They will have to add more, but with a product that manages both, they won't have to reinvent the wheel."

See Computer Associates, page 12



Linda Reino, CIO at Universal Health Services, says it's critical to capture wireless data along with the wired network statistics.

WLAN vendors spar over implementation methods

Wireless LAN Showdown at CeBit highlights differences among equipment makers.

■ BY JEFF CARUSO

NEW YORK — Wireless LAN equipment vendors drew sharp contrasts among themselves in the spirited debate of *Network World's* Wireless LAN Showdown last week.

At the CeBit America trade show, four vendors shot holes in each other's arguments while struggling to put forth their own distinct visions of how wireless networking should be done. The result was a clear divide between the two established wired-network vendors, Cisco and Extreme Networks, and the two wireless start-ups, Airespace and Aruba Wireless Networks.

Ron Seide, senior product line manager for Cisco's wireless networking business unit, touted the company's "integrated approach," in which higher-level functions such as security and quality of service are handled across wired and wireless networks by the recently announced additions to the high-end Catalyst 6500 switch.

"What if you don't have a Catalyst 6500?" asked Alan Cohen, vice president of marketing and product management at Airespace.

Seide responded that Cisco's research showed that companies of the size that might need Layer 3 mobility would be likely to have the 6500 already installed.

Keerti Melkote, vice president of marketing at Aruba, countered that Cisco's approach still requires wireless access points that are heavy on both functionality and cost, and any security-related func-



“We introduced the idea of unified access more than 12 months ago.”

Vipin Jain

Vice president and general manager of LAN access, Extreme Networks

tions would mean further costs in the form of additional blades for the 6500. Aruba favors a "thin" access point with centralized management.

Seide retorted, "The so-called thin access point is just as fat as other access points," with as much processing power and other hardware overhead. Plus, customers still have to buy the corresponding central controller or it doesn't work. "It's just redistributing the costs companies pay," he said.

Seide further defended Cisco's Catalyst 6500-centric approach, saying that it's just the beginning and hinting that other, less-expensive equipment would support WLANs in the future.

Like Seide, Extreme's Vipin Jain promoted the idea of an integrated approach. "We introduced the idea of unified access more than 12 months ago," said Jain, vice president and general manager of LAN access.

He said security and other functions "need to work seamlessly across wired and wireless." Otherwise, he warned, two parallel networks would be created, adding complexity.

"A lot of things [Jain] said are true — if you're trying to protect your switch," Cohen said. "This new access method [wireless] has different physical properties" and therefore requires a separate approach.

Cohen noted that carriers keep packet forwarding and radio frequency management in separate devices for that reason.

"If you're doing complex functions like firewalls or RF management, you have to run a different set of computational calculations," he said. "Last I checked, the [IBM mainframe] S/390 is not a Web server, either."

The two start-ups spoke about the biggest problems they encountered when trying to set up their earliest WLANs. Aruba was surprised by the activity among employees and attempted intruders in an early installation, making intrusion-detection capabilities a high priority.

Very quickly, there were a lot of intrusion attempts on the wireless LAN," Melkote said.

Aruba relies on its central server for security enforcement. "The users aren't trusted but the access point is trusted," he said.

Cohen said Airespace ran into trouble in

that technologies the company thought were fairly standard were not quite mature. He cited differences among WLAN clients and unidentified challenges with RADIUS authentication.

Vendors disagreed on the need for a site survey to determine where to place access points for best coverage. Melkote said Aruba offers a tool that explains where to put the access points, making a site survey unnecessary.

Cisco's Seide argued that a site survey is "pretty simple" and "absolutely required" for healthcare, manufacturing, warehouses and other locations.

Among all the serious debate, the panelists managed at least one laugh. Seide, in talking about Cisco's Aironet equipment, stopped himself. "Aironet — I almost said Airespace," he said.

"Wishful thinking," Airespace's Cohen replied. ■



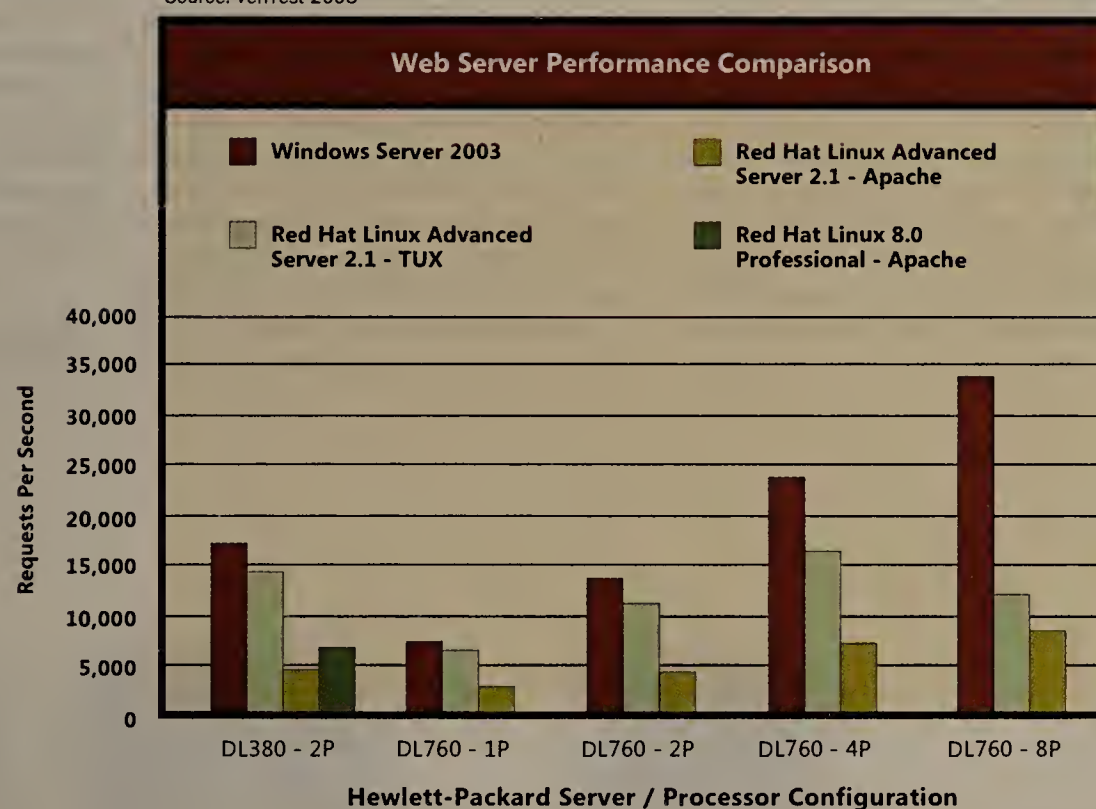
More online!

In *Network World's* latest Web cast, Craig Mathias, principal at Farpoint Group, leads you through the pros and cons of wireless networking.

DocFinder: 1950

WHICH OFFERS SUPERIOR PERFORMANCE: WINDOWS OR LINUX? THE RESULTS ARE IN.

Source: VeriTest 2003



The Windows platform generated up to 300 percent better peak Web serving performance compared to Linux according to a recent benchmark test conducted by VeriTest, a leading independent testing company. In fact, VeriTest found that Windows Server™ 2003 with Internet Information Server (IIS) 6.0 outperformed every Red Hat Linux configuration they tested, regardless of the server employed or the number of processors. To get the full study and more third-party findings, visit microsoft.com/getthefacts



Computer Associates

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CA's new executive team — interim CEO Ken Cron, President of Product Development Mark Barrenechea, CFO Jeff Clarke and Chairman Lewis Ranieri — quickly acknowledged the company's past actions, which have prompted a Securities and Exchange Commission (SEC) investigation, before moving on to talk of new technology and services.

"When you're in the middle of [the investigation], it isn't very much fun, and looking back it could have been done more elegantly, but the fact was the system was broken, and it had to be fixed. Sometimes a meat cleaver is a handy tool," Ranieri said.

Clarke last week in discussing company earnings revealed CA had offered the SEC a \$10 million settlement.

CA says it's coming out of its troubled times.

The company had revenue for its most recent fiscal quarter of \$850 million, up 10% from \$775 million in last year's fourth quarter. Net income was \$89 million, or 15 cents per share.

In last year's fourth quarter, CA lost \$106 million. Revenue for the 2004 fiscal year, ended March 31, was \$3.3 billion, up from last year's \$3 billion. CA's net income for the year was \$25 million, up from a \$267 million loss in 2003.

Former CEO Sanjay Kumar, now chief technology architect, was notably absent from several public presentations as speculation continues that he might face indictment.

CTO Yogesh Gupta detailed CA's products plans, which include integrating many of the company's 1,250 products into bundles, adding more appliances to its portfolio, delivering its software as managed and hosted services, and incorporating the Sonar technology it acquired last year across multiple software products.

Dubbed Asset Intelligence, CA says it will use Sonar's traffic-analysis capabilities as an underlying technology in its products to let them build maps of IT assets, including switches, routers, servers and desktops. It also will maintain an up-to-date management database and model services across multiple infrastructure components, such as servers, applications and storage.

Managing Exchange

As part of its integration plans, CA unveiled the CA Management Bundle for Microsoft Exchange. The suite includes multiple existing products packaged in one offering to simplify use, CA says.

For Version 8 of eTrust Vulnerability Manager, CA coupled the vulnerability scanning appliance it introduced last year with Unicenter Software Delivery, which will enable one box to scan for potential holes and then automatically apply patches.

"Integrating Software Delivery and asset management with vulnerability scans would add the security context needed to roll out patches through their software distribution products," says Jeffrey Goldberg, director of enterprise management services for Management Solutions

& Systems, a systems integrator in Capitol Heights, Md., that maintains Unicenter for Walter Reed Army facilities. "They have so many products that we put together to use on our own; it would make sense for them to integrate them and offer them as one product."

CA says it will continue to consolidate and integrate products across its six brands to offer customers more complete management packages. Barrenechea says CA will let customers buy software piece by piece or purchase a comprehensive suite of tools that manage many infrastructure components.

"There is still not enough clarity as to what they have and how customers can take advantage of it," IDC's Elliot says. He says he's skeptical of how CA will adapt to deliver its software as a service.

CA announced Unicenter Web Services Distributed Management 3.1, which can be purchased as software or now accessed as a hosted service through a secure portal via CA's Web Site.

CA also made its vulnerability scanning products available as a managed service offering dubbed eTrust Managed Vulnerability Service. In this scenario, CA would maintain the product in a "vulnerability operations center" to which customers are securely connected, and CA would remotely monitor customer networks, scan for vulnerabilities and apply patches. The company says it plans to continue to add services, which could be a precursor to delivering software in pay-per-use models such as competitors HP and IBM.

"Delivering software as a service is an entirely different approach with cus-

tomers. I am not sure how they plan to execute on that," Elliot says.

Linda Reino, CIO at Universal Health Services in King of Prussia, Pa., also worked with CA in the past year and deployed Wireless Site Management on the production network at George Washington University Hospital in Washington, D.C. She says it's critical to capture wireless data alongside wired network stats.

"Hospitals typically don't, but need to, have concurrent processes to capture data and deliver services consistently," she says. "Healthcare has no choice but to go wireless, and we needed to centralize event management throughout Unicenter."

Go further

At least one customer would like CA to go one step further from event management and add advanced correlation to its products. Jay Levitan, technical services engineer for IT services at College of the Holy Cross in Worcester, Mass., says today his Unicenter deployment accurately alerts him to events across the campus, but in the near future, he'd like to see the software indicate that an event on a specific server is the cause of the performance problems at, say, a student dorm.

"I am really looking to learn more about advanced correlation and how I can spot spyware on our net," he says. "We can't tell the students what to do, so we need to configure Unicenter to lock down the threat," he says.

IDG News Service Staff Writer Stacy Cowley contributed to this report.

IronPort

AVI

CRS

continued from page 1

and more recent practice of acquiring vs. developing new technology.

The box is powerful: a CRS-1 system, also called the HFR, supports 92T bit/sec of bandwidth and each slot is capable of 40G bit/sec. The router features Cisco's first

modular operating system specifically for carriers. The company's enterprise-borne, 17-year-old IOS is monolithic, meaning all processes are tightly intertwined and interdependent.

Cisco officials say they are evaluating pushing CRS-1 ASIC and software technology down deeper into its product line, a move that would gradually phase out platforms based on current-generation hardware and IOS software technology and mark a more dramatic reboot of the company's entire product portfolio. A modular operating system isolates certain processes so they can be stopped, started or changed without taking the entire router out of service; IOS could not do that.

Corporations should expect a dramatic makeover of their Cisco routers, starting at the high end. Cisco has said that it is striving to put all of the products in its three lines of business — Commercial, Enterprise and Service Provider — on a common hardware and software architecture for feature, operational and manage-

ment consistency and lower cost.

While stopping short of pointing out the CRS-1 as the first example of that strategy, Chief Development Officer Mario Mazzola says it has the "potential" to usher in that era.

Cisco President and CEO John Chambers heralded the CRS-1's release, which was expected (www.nwfusion.com, DocFinder: 2246) as "the new beginning" at

Cisco. The router took Cisco four years and \$500 million to build.

"This is the biggest jump we've taken in innovation since the router was introduced 20 years ago," he says. "This is a whole new generation of routing, not an extension. We have to start from scratch in hardware and software."

Chambers promised that the industry will see a "twofold increase in innovation" from Cisco in 12 months. "You haven't seen anything yet in terms of the capabilities," he boasts of the CRS-1.

"This is going to be the future of Cisco," says Frank Dzubeck, president of consultancy Communications Network Architects and a longtime Cisco watcher. "This is going to be the model."

To add the new modular IOS-XR operating system to other products and product lines, Cisco will need to upgrade the hardware, according to Dzubeck. It might not be the same architecture as the CRS-1, but it will require a recast.

"You need certain new hardware functions so the operating system can implement some of the new things they were talking about," such as partitioning one physical router into multiple logical ones addressing different customers or applica-



“This is the biggest jump we've taken in innovation since the router was introduced 20 years ago.”

John Chambers
CEO and President, Cisco

tions, he says.

Despite the significant upgrade that appears to be coming, enterprise users should expect the new products to last much longer than Cisco's current-generation gear. The CRS-1 heralds in the era of a decades-long lifespan of network equipment, according to Chambers, through its use of programmable network processors and modular software that can be upgraded to support new capabilities as requirements change.

This marks a departure in Cisco's usual practice of requiring users to replace routers and switch hardware and software every three to five years (DocFinder: 2247). Chambers has said that customers should be aware that products they buy might become obsolete in two or three

years as new advances such as voice integration and multimedia capabilities are introduced.

The new router's launch also makes Cisco a little more bullish about its prospects in every market in which it competes. Chambers usually says Cisco won't enter a market unless it can be the No. 1 or No. 2 supplier.

He now says Cisco is aiming to be No. 1 in each of its three line-of-business markets.

The chest pounding is Cisco's way of trying to distance itself from its competitors, analysts say. Many observers feel the CRS-1 now brings Cisco to technological parity with Juniper's 2-year-old T640 router, but Cisco is looking to get beyond parity.

"They're playing up the company to uneven that playing field," says Joe McGarvey, an analyst with Current Analysis. "On the equipment side, competitors could argue now it's a clean slate for everyone. But outside of the speeds and feeds, Cisco's a formidable company with a lot of history. That's a big advantage."

However, McGarvey cautions that Cisco should be careful with how it presents its technological metamorphosis.

"I don't know if that's a good thing that Cisco says it's a new start for the way they do things," McGarvey says. "They've been pretty successful with executing in the past. As far as the platform goes, it's definitely a departure from what they were doing before, it's a new chapter. That's how they should frame it: a new chapter rather than something completely new." ■



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[LOOK AHEAD JUNE 14]



Rebuilding the World's Email Infrastructure

Cool

continued from page 1

gap, effectively dissipating it, the company says.

"It's a little like having a party and you induce all the noisy people to go next door," says Chris Bourne, director of public relations for Cool Chips. "The party gets quieter in one room and the other room gets noisier."

Cool Chips says it hopes to ship products for servers and laptops in 2006.

Another start-up is taking a different approach: Engineers from Purdue University in West Lafayette, Ind., formed Thorrn, which is developing technology called nano-lightning that creates wind currents that flow over the processor through microchannels. Thorrn says it expects to commercialize the technology for cooling laptop comput-

ers in 2006. The company's technology generates electrically charged atoms using electrodes. When electrons are discharged they interact with air and cause small gusts of wind that are then passed through microchannels to cool the chip.

"The idea is to make a very small direct air-cooled system," says Daniel Schlitz, president of Thorrn in West Lafayette. "We have replaced the fan with an ion-driven method of pushing air through a microchannel-based heat sink. We hope to be able to remove all the heat in the laptop with a very small package."

Schlitz says the company also is developing technology to cool blade servers.

Large chip manufacturers such as HP and IBM also are working on cooling their processors.

HP Labs is working on cooling chips with inkjet printing tech-

Hot on the trail

A variety of vendors are developing more efficient cooling for servers and laptop computers.

Company	Product	Approach	Funding
Cooligy	Active Micro-channel Cooling	Fluid-based cooling	Mayfield Fund, Mohr, Davidow Ventures and Granite Ventures \$10.3 million
Cool Chips	Cool Chips	Electron-based cooling	Publicly traded
iCurie Lab	Unknown	Micro-electro-mechanical systems	Hansen Grey \$3 million
NanoCoolers	Unknown	Fluid-based cooling	Draper Fisher Jurvetson \$8.5 million
Thorrn Micro Electronics	Code-named 'nano-lightning'	Ion exchange-based cooling	Burton D. Morgan Entrepreneurship Competition and 21st State of Indiana Fund \$500,000

nology. The company has taken a printing cartridge and re-engineered it into an efficient, inexpensive cooling device for semiconductors. The spray-cooling mechanism shoots a small amount of dielectric liquid coolant onto specific areas of a chip.

The liquid vaporizes on impact, cooling the chip, and the vapor is then passed through a heat exchanger and pumped back into a reservoir that feeds the spray device. While HP would not comment on when its servers will use this technology, Chandrakant Patel, distinguished technologist at HP, says that systems would not need the technology for at least three years.

"Intel and [Advanced Micro Devices] are developing technology to change the growth curve of heat and power consumption," says Earl Joseph, research vice president of IDC's high-performance systems. "When you plot the curve, it looks like fourth-generation Itaniums will need a power plant to run one chip."

Server vendors typically have dissipated this heat with bulky fans and heat sinks. Mainframe and supercomputer manufacturers have long used fluid enclosed in special compartments to cool their processors.

"So far every vendor has stayed with air cooling — bigger and bigger fans moving air at higher and higher velocities," says Nathan Brookwood, principal for research firm Insight64. "We may very well be forced to go back to liquid cooling [like in mainframes] again just to deal with the extreme amounts of heat."

Analysts say Intel's new multi-core technology, which will ship in Itaniums next year, also will help alleviate heat problems.

"Intel does not plan to stay on the same heat/power consumption curve forever," Joseph says. "They are doing some fairly sophisticated control where the current and power are going across the chip — if there's a part of the cache that's not used for a few microseconds, they are shutting down that part of the chip, thus reducing heat dramatically."

"Blade servers are a very good fit for these cooling technologies," he says.

Intel is developing new materials to use in chip making designed to reduce current leakage, which causes heat, by hundreds of times. Called High-k, it will be implemented in future manufacturing processes. Later this year Intel is expected to disclose information about new materials and new types of transistors designed to increase performance and reduce heat significantly.

Still another start-up, Cooligy, is working on devices that sit on top of the processor and through a series of microchannels shunt water over the chip to reduce heat.

The company has developed an electro-kinetic pump that circulates fluid in a cooling system through a heat collector and to a radiator that is the size of two decks of playing cards. The radiator then transfers the heat to the outside air, where it can be picked up by the data center cooling system. Cooligy's Active Micro Channel Cooling (AMC) system can dissipate as much as 1,000 watts of heat per centimeter, according to the company. Current systems remove heat at 250 watts per centimeter.

The AMC technology was developed at Stanford University with the assistance of AMD, Intel and Apple, and licensed to Cooligy. The company is expected to launch its product next year.

NanoCoolers, a start-up, did not respond to *Network World's* calls. The company is developing thermoelectric coolers that use a liquid metal to cool server processors. Sources say NanoCoolers' product should be available next year. ■

Sourcefire alters Snort intrusion-detection ware

■ BY ELLEN MESSMER

Sourcefire this week is expected to announce add-on software called Intrusion Agent for its intrusion-detection system freeware Snort. The add-on will let the freeware version of Snort work with an updated version of Sourcefire's Defense Center management console, which has supported only the commercial Snort IDS until now.

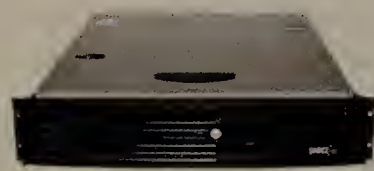
In the past, security managers using Snort typically have taken their own steps to integrate IDS information into management consoles of their own choosing, such as security event management products. Sold as an appliance, the Defense Center 3.2 console is now able to aggregate security-event information collected by both the commercial and freeware versions of the Snort sensor, which passively monitor for thousands of different attacks.

Defense Center 3.2 also can receive a continuous feed from Sourcefire's passive scanning tool called Real-Time Network Awareness (RNA) to discover desktop and server operating systems and applications.

By comparing the attack alerts with the operating systems and applications on computers on the corporate network, Defense Center greatly reduces the false positives that are the bane of IDSs, the company says.

"It brings a new capability to IDS," says Paul Pocialik, CEO of Reston, Va., systems integrator at Noblestar, which has used RNA since it was introduced at the end of last year.

While the RNA discovery tool used in conjunction with Snort doesn't completely eliminate the problem of false positives with IDSs, it radically



Sourcefire's Defense Center 3.2 can correctly prioritize security attacks, the company says.

reduces them, he says. With the information on network assets provided by RNA, Defense Center can correctly prioritize security attacks.

Another early adopter of RNA and Defense Center 3.2, AutoTrader, an online car shopping site in Atlanta, says the value of IDS is in combining event infor-

mation with knowledge about network resources. "RNA knows all about my servers, IDS knows what's going across the wire, and correlating the two together to understand the impact is the real value," says Matt Kogler, AutoTrader's senior security and network engineer.

Defense Center 3.2 determines immediately if machines on the network are vulnerable — or potentially vulnerable — to an attack. It also cites if the event is relevant but the target is not vulnerable, plus classifications of notifications that can be color-coded with graphics.

Sourcefire's CEO Wayne Jackson called these "impact flags," adding, "It's the notion of trying to make better sense of IDS output by correlating scanning data."

Sourcefire has about 400 corporate customers that use the commercial version of Snort and an estimated 100,000 Snort freeware users, as evident from online downloads, Jackson says.

In the past, Sourcefire's founder and CTO Marty Roesch has expressed ambivalence about whether Sourcefire will ever offer a commercial intrusion-prevention system (IPS) that blocks attacks. But Jackson says there should be no doubt about it. He says RNA working with Defense Center paves the way for Sourcefire to offer a commercial IPS by year-end.

Sourcefire Defense Center starts at \$17,000. ■



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Buck's

Continued from page 1

some 700 of the world's journalists have traipsed through its door in the hopes of stumbling upon the next Google or snapping a picture of Larry Ellison chomping on a lobster.

It's no wonder that Buck's owner Jamis MacNiven had more than enough material to fill a new self-published memoir titled *Breakfast at Buck's: Tales from the Pancake Guy*.

MacNiven recalls how Bill Gates once fought for the check with his guests and won, and describes how in 1999 CNBC commandeered the place for nine hours to broadcast "Power Lunch," which featured interviews with Cisco Chief John Chambers and a host of other CEOs.

Then there's MacNiven as an attraction himself.

"I'm always coupled [in articles] with Alan Greenspan as America's pundits," says MacNiven, who says he was born 55 years ago in a remote Japanese fishing village, and is the grandson of a strip tease artist and a con man.

Buck's is unique in Woodside. It would be quite easy to miss the single-level eatery with its unassuming facade that

stands below the steep canyons of nearby Huddart Park. But inside you feel like you've stumbled into a circus. An outfit worn by Uri Gagarin, the first man in space, hangs from the ceiling along with a flying unicorn.

Although the number of camera crews that film in Buck's has plummeted along with tech stocks, venture capitalists still like to hang out there. Steve Jurvetson, a managing director at Draper Fisher Jurvetson, last Tuesday said he'd already been to Buck's three times that week and that during the dot-com boom, he used to eat at Buck's more often than at home. In the mid-1990s, Jurvetson had one of his first meetings with Sabeer Bhatia about an idea Bhatia had called Hotmail.

"Venture capitalists go to Buck's because it's convenient to set up a breakfast meeting there and then drive to work at Sand Hill Road," Jurvetson says, referring to a road that's 5 miles from Buck's and is to venture capitalists as Rodeo Drive is to fashion designers. "Then there's the self-perpetuating network — the



Jamis MacNiven has become as much of an attraction as his restaurant with his recently published memoir.

more people that go there the more popular the place is. You meet a network of loose contacts — other venture capitalists, entrepreneurs, CEOs — people who you haven't set up a meeting with but you can shake their hand and say 'hi' as you walk past their table."

MacNiven, hard to miss in his loud shirts, is always on hand to make introductions as well.

In 1996, MacNiven cooked up a big-

time networking event dubbed the Sand Hill Challenge in which venture capitalists and others raced in homemade boxcars to benefit charities.

"One team of engineers and physicists built the most beautiful car imaginable out of parts scrounged from the Stanford Linear Accelerator," MacNiven notes in his book. "It's amazing what 30 engineers can do with \$10 million worth of parts."

By its fourth year the Challenge was generating, on average, \$7,500 in charitable contributions per team. But the event succumbed to the dot-com downslope and was canceled in 2002 because of a lack

of sponsors.

MacNiven says there is one Silicon Valley giant who has never stepped foot in Buck's: Steve Jobs. As a contractor, MacNiven spent some time remodeling a house for Jobs, then 24 years old.

"Steve Jobs was an amateur customer, and I was an amateur builder," MacNiven recalls. "He was very indecisive. He was on the cover of *Time*, but he couldn't pick a couch. He was over-choiced."

The partnership lasted a year and the parting was not friendly. "He was no picnic to work with," MacNiven says.

As a result, Jobs has never been inside Buck's to see a giant painting of Roy Rogers and Trigger, in keeping with the theme of the site's previous restaurant, The Stagecoach. MacNiven wanted to keep the Wild West theme and hoped to name his restaurant Buffalo Dick's, but his wife vetoed that (Buck's is the abbreviation). However, some like to think he named the restaurant after the greenback.

Then there's the signed letter from a Russian government official thanking MacNiven for his interest in buying the embalmed body of Lenin to display in his restaurant, but that it wasn't for sale. Although Russia was interested in learning more about the "low six figures" that MacNiven and his friends were willing to drum up to buy the waxy body of the former Communist leader.

That letter, and a copy of the one MacNiven wrote that started the dialogue ("We have a history in the U.S. of reverently displaying obsolete national treasures, such as England's London Bridge...") is on proud display opposite the restrooms.

Thanks to its Wi-Fi service, Buck's continues to attract venture capitalists and Silicon Valley types who like to drop in to catch up on e-mail before their next meeting. There might be fewer venture capitalists around and fewer deals being made over breakfast at Buck's, but MacNiven is still selling plenty of pancakes and now maybe even a few books to boot. ■

IT job changes afoot

Offshore outsourcing, automation will change workplace, consultant says.

■ BY ANN BEDNARZ

BOSTON — Entrepreneur and corporate strategist Michael Treacy says one-third of IT jobs will be lost to automation over the next decade. An equal number of IT jobs will be outsourced to national or offshore providers.

Treacy spoke about the trend to outsource not only IT functions but also other professional roles, and clerical and labor-based manufacturing positions. Companies that don't consider alternatives to in-house labor "will become uncompetitive and die," Treacy said last week at an event hosted by public relations firm Brodeur Worldwide. "The driver to outsource and offshore is survival."

Treacy is a strong advocate of finding talent outside of corporate and country borders. The globalization of product innovation is the premise behind the consulting firm Treacy founded, GEN3 Partners, which helps companies outsource portions of their research and development work.

For example, GEN3 Partners funded a wireless start-up that uses phase array radar technology to identify and track signal availability. Called AirGain, the com-

IT evolution

Consultant Michael Treacy says IT will be radically transformed in the next 10 years as automation and outsourcing mature.

- 30% of IT work will go away because of improved tools, packages and automation capabilities.
- Another 30% of IT work will be outsourced, including operations, maintenance and programming functions.
- The remaining 40% of IT work will be focused on architecture and high-level application planning and implementation.

pany developed its technology in St. Petersburg, Russia, and is having its product manufactured in China.

To have developed the product in the U.S. would have been prohibitively expensive — about \$20 million, as compared with AirGain's \$5 million funding. Access to low-cost research and development resources in Russia made the start-up possible, Treacy said.

He acknowledged the issue of offshore outsourcing is highly politically charged these days. The primary reason for all the fervor is that it's an election year, Treacy said. In addition, fear of a jobless recovery

and the realization that white-collar jobs are at stake is elevating the issue.

But Treacy doesn't expect any legislation will result from politicians' anti-offshore rhetoric.

Politicians won't take action to limit corporations' ability to offshore work, Treacy predicted. "They're going to do nothing. This is all hot air," he said.

Meanwhile, it's the labor-based manufacturing jobs that U.S. companies have been sending to developing nations first. Next up for relocation and obsolescence are clerical jobs. "Clerical work will go the way of agricultural work — we don't need it," he said.

After that, professional jobs: "Professionals will have to compete for their jobs globally," Treacy said.

Within 20 years, 50% of blue-collar roles, 80% of clerical roles and 20% of professional roles will be outsourced or eliminated, according to Treacy. The elimination of jobs will be a result of productivity gains through automation, for example.

Historically, a far greater number of jobs have been lost to automation than to offshore outsourcing, Treacy said. "Yes, offshore outsourcing eliminates jobs, but at a modest rate compared to other productivity impacts," he said.

Nonetheless, individuals should look to protect themselves should their jobs become obsolete. "Employees have to take responsibility for maintaining marketable skills," Treacy said. ■

Read about IBM's latest outsourcing deals. PAGE 24



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VoIP

continued from page 1

The Cisco VoIP system and underlying Layer 2/Layer 3 infrastructure — all Cisco stuff of course — held up so well against our hacker assaults because the security and defense pieces were implemented in every layer of the architecture. There were security pieces in the VoIP Call-Manager servers, in the Catalyst switches, in the IOS-based routers, in the intrusion-detection system and in the multiple PIX firewalls. That amounts to a half-dozen radically different platforms, each with its own management interface.

Watching the Cisco team (which totals an estimated \$1 million in combined annual salaries) adjust and configure all its security stuff, I understood why so many of them had shown up.

If IP telephony is going to prevail, there will have to be some better way for normal users to set up and adjust all of the pertinent pieces needed to make their VoIP networks secure.

On the Avaya front, there were fewer security pieces to configure. That's the good news. But the overall security effectiveness of the Avaya solution? That's the bad news.

Avaya actually touts that it is switch-agnostic. That means it will do its best, security-wise, running the Avaya IP telephony package over whatever network infrastructure the customer prefers. We tested its VoIP products running over Avaya Layer 2 switches, and then over Extreme Summit and Alpine systems. Avaya had no more than three engineers on-site during the testing.

Cisco showed the world that building a secure VoIP network is possible. But it has a long way to go to convince the world that its customers can do it themselves, affordably and effectively.

How to proceed? Ahem . . . Cisco, are you listening?

The challenge

Ours is a two-part challenge to VoIP vendors. Make VoIP security education and VoIP security technical assistance more readily available. And second, we'd like to see better tools and user interfaces, in the long run, that let users more globally set security parameters.

Phase 1: Education and assistance.

Cisco does have some literate documentation on its Web site about securing VoIP. You get to

The charge:

Setting layered, VoIP security parameters is extremely difficult.

The prime offender:

Cisco, Avaya, VoIP vendors in general.

The challenge:

Part 1: Provide better educational information and services. Part 2: Build tools that set global security parameters.

The debate:

Join our online forum at www.nwfusion.com, DocFinder: 2231.

that information by searching on "SAFE" from the Cisco home page.

There are also online resources that are helpful for configuring many of the Cisco security pieces (DocFinder: 2230).

For now, end users need to share the burden with vendors. Like it or not, network managers

have so far had to learn about the mechanics of firewalls, VPN gateways and the like. Getting your arms around the additional pieces for a secure, full-stack IP telephony deployment is a necessary expense. Just accept it. Half is theory; the other half is vendor-specific. Hopefully scenarios such as ours last week will start to force VoIP and IP telephony vendors to put together, and tighten up, packages that offer effective security.

However, we are challenging Cisco, Avaya and the rest of the VoIP vendors to offer prospective customers free VoIP security training or, better yet, throw in a network-assessment and security audit with your package, with specifics about how that particular user can best patch security holes and vulnerabilities.

Phase 2: Better tools and interfaces are imperative. What do I mean? Go to your Internet Explorer browser. Go to Tools, Internet Options and look at the Security tab. If you are a masochist, you can select Custom and try to configure the dozens of security settings yourself. But you can also just select from a few

general settings: Low, Medium and High.

VoIP vendors need to reach for that security configuration model. Cisco and other vendors need to develop a tool that takes a customer's general direction (say, bullet proof, pretty safe and wide open), and then automatically applies all the appropriate settings to all the assorted Cisco components.

Because Cisco and Avaya stepped up to the plate in our inaugural VoIP security testing, we offer both companies space in print to respond to this two-part challenge. But that is not to say that we don't want to hear from other VoIP vendors who've got something to say on this matter. We'll publish those responses in our online forum on this topic at DocFinder: 2231.

So let us know how deploying VoIP security is going to be handled in the future, because it's a long, long way from perfect now.

Mier is a network technologist, consultant, author and founder of Miercom, a network product test center in Cranbury, N.J. He can be reached at edmier@mier.com.

Network Associates boosts VirusScan

■ BY ELLEN MESSMER

Network Associates is set to introduce this week an updated version of its server and desktop anti-virus software that augments existing protection with anti-malware capabilities, including intrusion prevention and spyware eradication.

McAfee VirusScan Enterprise 8.0 represents a bold — and, customers and analysts say, a needed — departure from the anti-virus software packages Network Associates has offered in the past. VirusScan Enterprise 8.0 will be Windows-based security software that automatically blocks worm-based attacks, such as buffer-overflow exploits, that traditional anti-viruses are not always effective in battling. In doing this, McAfee will become one of the first anti-virus vendors to incorporate intrusion-prevention blocking technology into anti-virus software, analysts say.

"Anti-virus has been reactive, and we've seen how weak it is against worms such as Sasser and Blaster," says Pete Lindstrom, an analyst with Spire Security. "What they're doing makes complete sense, and we've been looking for this for some time."

Specifically, McAfee is integrating some — though not all — of the blocking capability of the Entercept host-based intrusion-prevention product it gained in the acquisition of Entercept Security Technologies last year.

This includes Entercept's signature-based blocking of buffer-overflow attacks that worms and hackers often launch against Microsoft products, including Internet Explorer, Outlook, Outlook Express, SQL Server, Microsoft Office applications and MSN Instant Messenger, says John Bedrick, group marketing manager for systems security at Network Asso-

ciates' McAfee division.

AntiVirus Enterprise 8.0 also will include defenses against other vulnerabilities that have become known, such as the Local Security Authority Subsystem Service hole that the recent Sasser worm exploited. But it won't include some of Entercept's more complex policy-based behavior-blocking, which requires more administration.

One question for customers will be whether to continue buying Entercept software if at least part of its capability is being added into McAfee anti-virus software.

Dan Lukas, lead security architect at Aurora Health Care in Wisconsin, says Entercept, which is deployed across desktops and servers at the 35,000-user organization, is highly effective at blocking worms.

"Since VirusScan won't have the full functionality of Entercept, it's going to have to be a decision based on risk assessment and deterrent," he says. McAfee customers will evaluate questions of this kind as they get a look at VirusScan 8.0, he says.

McAfee is also fast adding other anti-malware protections to VirusScan 8.0. These include a desktop and a server firewall that can be used to shut ports to block e-mail viruses. It also will have spyware eradication to eliminate about 200 programs considered harmful that users might inadvertently download from the Internet.

VirusScan 8.0, expected to be available June 23, can be managed through either the ePolicy Orchestrator console, preferred by large companies, or the recently introduced ProtectionPilot console, which is intended for small to midsize businesses.

Sold with management console, VirusScan Enterprise Enterprise 8.0 costs \$20.61 for 1,000 seats. ■

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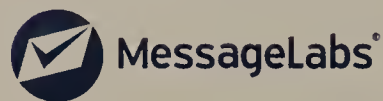
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Short Takes

■ **IBM** in June is scheduled to release a new version of its **TotalStorage SAN File System Software**, which is designed to work with a wider variety of server and storage environments. Unlike previous versions, which supported only IBM products, Version 2.1 will work with storage devices from EMC, Hitachi Data Systems and HP. It also now supports the Red Hat Linux Enterprise Server 3.0 and Sun's Solaris 9 operating systems. The software has been enhanced to let customers move data from one device to another without disrupting their server operating systems. SAN File System is based on SANergy technology the company acquired from Mercury Computer Systems in 1999. Version 2.1 is scheduled to be available on a stand-alone basis or as a free upgrade to existing customers on June 29. There will be a \$10,000 per-processor licensing fee for the File System's Metadata Server, and customers will pay a \$5,000 per-processor usage charge for application servers that use the file system.

■ **SanDisk** plans to begin shipping by the end of June the **Secure Digital card**, which combines 256M bytes of memory and a wireless LAN adapter. The card is designed for PDA users and could be handy for those who now use a Secure Digital-based WLAN card to access the Internet. In such a situation, a user is restricted to downloading only as much data as there is space for in the PDA's memory because the data has to be held there before the WLAN card can be unplugged and a memory card inserted. SanDisk's card lets data be stored directly into a card's memory without first storing it in a PDA. Initially it will ship with drivers for several Microsoft operating systems, including Pocket PC 2002, Pocket PC 2003 and Windows Mobile 2003, and support Wired Equivalent Privacy, 802.1X, Phase-shift keying and Wi-Fi Protected Access on the Windows CE platforms, the company says. Devices also are required to have an SDIO-compatible slot. The Secure Digital card will cost \$129.

EMC touts NAS device

Network-attached storage appliance targets SMB customers.

■ BY DENI CONNOR

EMC last week introduced a low-end network-attached storage appliance designed to replace direct-attached storage and file server products many companies use.

The NetWin 110 is based on Microsoft's Windows Storage Server 2003 technology and attaches directly to the Gigabit Ethernet network. It is EMC's fourth product designed for small and midsize businesses (SMB). In 2002, EMC acquired Prisa Networks for its storage-area network (SAN) management VisualSAN product; in 2003, it snapped up Astrum Software for its storage resource management VisualSRM software; and next month, the company is scheduled to announce the Clariion AX100, a low-end, inexpensive Serial Advanced Technology Attachment storage array it will sell only through resellers or distributors such as Dell, Fujitsu and Tech Data.

"EMC can't afford to ignore the SMB market, which represents 35% to 40% of overall IT demand, but getting real traction there requires a lot of upfront investment in terms of setting up the necessary channel relationships and support infrastructure," says Bart Kaplan, systems and storage analyst for Precursor, an advisor to institutional investors in Washington, D.C.

EMC will sell the NetWin 110 only through distributors such as Avnet Hallmark, Tech Data and Arrow Electronics.

Stephanie Balaouras, a senior analyst with The Yankee Group, says the NetWin 110 will not compete with SAN implementations in SMBs.

"To SMB customers, the NetWin 110 is more attractive than a Fibre Channel [SAN]," Balaouras says. "No small business is going to buy a NetWin 110 for \$6K host bus adapters, Fibre Channel switches and more expensive EMC CX models to solve their storage problems."

The appliance, which can run Microsoft Exchange 2003 server, supports Microsoft's Virtual Shadow Copy Service (VSS). VSS lets IT administrators take point-in-time copies of storage volumes for back-up purposes. Based on an Intel 1U single CPU server, the NetWin 110 also supports Micro-



EMC's NetWin 110 appliance allows for storage provisioning and resource management.

soft Common Information File System, Unix/Linux Network File System, NetWare and AppleTalk.

It has integrated management capability that allows for storage provisioning, monitoring and alerting, and the ability to be monitored by the Microsoft Management Console, EMC's ControlCenter or VisualSRM management products. It attaches to EMC's CX disk storage.

Appliances like the NetWin 110 that use Windows Storage Server 2003 or earlier versions of Microsoft's Server Appliance Kit are saturating the low-end and midrange NAS market. Gartner estimated in April that NAS devices that contain Windows server code made up 50% of the market.

The NetWin 110 costs \$6,100. Configured with a half-terabyte of CX300 storage, the NetWin 110 costs \$38,000. ■

NETWORK WORLD TECHNOLOGY TOUR BACKSTAGE WITH JAMES GASKIN



Flextime, extended days, telecommuting, mobile computing. Whatever the term, the number of workers demanding network access from beyond the traditional corporate walls is rapidly increasing. And IT managers are feeling the pressure to support anytime, anywhere access to enterprise applications, corporate data and other resources.

To help administrators better manage these types of users, Network World next month is launching its first Remote Office Networking Technology Tour. Network World Events Editor Sandra Gittlen spoke with keynoter James Gaskin about IT's challenge in supporting remote workforces.

The term "remote office" has evolved over the past few years. What does IT consider a "remote office" today?

It seems every employee not sitting at a desk in headquarters is now a remote

office. The days of a remote office being a place with a group of people in one building connected back to the main office with a phone company data link are long gone. Now any employee with a laptop or PDA is a remote office. I call this the "socks-based" office. Wherever an employee goes today, his/her remote office support needs go along in a briefcase or pocket.

What is the biggest change you've seen in remote-office networking over the past year?

The number of demands made by the remote worker and the ability of companies to answer most of those demands. IT departments have done a good job delivering a usable work environment to remote workers, which means the remote workers keep asking for more. Complete phone support, including PBX integration, data security and automated backup processes, and security including spam and virus controls, are all on the "can do" list. Not always neat and coordinated and polished, perhaps, but they all can be done.

What are some key techniques for IT managers in helping to manage remote offices, telecommuters and mobile workers?

Planning, when possible, makes life easier. Every new service or application must be scrutinized for the ability to deliver that service to every employee everywhere.

See Backstage, page 22



Storage

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The news lately has emphasized "search" as the next battleground in the war for dominance on the PC desktop. At least, that's what you'd think if you believed every analyst who is still allowed to use a pen. Frequently, though, it's the same people who told you there was no dot-com bubble who now find search so sexy: Will Google replace Microsoft as the platform of the search, or will Microsoft launch new and improved searching and steal Google's business?

Anyone who believes Microsoft can find a better way to search is invited to do two things. First, use your desktop Windows to

Microsoft over Google? Keep searching

search your local PC (or your network file server) for a word within a document. If you're searching less than 5G bytes of space, you can go and refill your coffee while you wait. If you're searching, 20G bytes or more, you can go to lunch and return before the results come in. Yet many pundits believe that, within two years, Microsoft can build a search engine that will be faster and more effective than Google's.

Stranger still are those, probably wishful thinkers, in the ABM (Anyone But Microsoft) group who feel Google can become the "platform of the future" and let users bypass Windows. Because most users have no desire to "bypass Windows," though, it's hard to see what a viable business plan might be. Some even suggest that Google develop its own browser as a way to create a platform.

Fortunately, Google CEO Eric Schmidt

knows firsthand what happens when you challenge Microsoft on its own turf. He had to come in and pick up the pieces at Novell after that company's disastrous attempt to use DR-Dos and WordPerfect to compete with Microsoft only to see the company's fortunes ruined for a decade.

Google needs to keep its sites trained on targets that benefit from its unique position as king of search. The new Gmail offering, for example, uses search technology to group e-mails — that's the radical departure, not the advertising or the large amount of storage.

I even use Google's "site search" ability when I want to find information at Microsoft.com, because it's faster and more efficient than Microsoft's own search. Microsoft might have better search ability in Longhorn, which might show up on your desktop within three years. It won't be much of a story then, and it cer-

tainly isn't one now.

Kearns, a former network administrator, is a freelance writer and consultant in Silicon Valley. He can be reached at wired@vquill.com.

Tip of the Week

The easiest way to get a Gmail account (and I was flabbergasted to read that some folks are paying \$70 and more for them on eBay) is to register and start a blog at Blogger.com. Eventually you'll be invited into the Gmail beta.

Backstage

continued from page 21

here are thousands of legacy services that must be retrofitted to support remote users, and that's much more trouble. Many of the remote management applications don't yet integrate into enterprise management suites, so remote users are managed separately. That will get better over the next couple of years, but it's tough at times today.

Too often, the remote workers are on their own for security, backup, virus protection, authentication controls and setting up remote connections from public spaces.

When IT managers are considering new applications for the enterprise, should they also look at how the apps could be rolled out to remote offices? Or is that still secondary to how they fit in the corporate network?

Every application and service should be available to every appropriate user regardless of location. The corporate network now extends to every Starbucks with a hot spot, and services should be available for employees sipping their mocha lattes in Starbucks as if they're sitting at their office desk sipping mocha lattes. If a new application can't be used while in a taxi, is it ready for the modern enterprise? Maybe not.

IT has pretty much had to chart a new course when it comes to managing remote and mobile offices. Do you think that job has gotten any easier?

I feel for IT managers because every time they get close to handling remote and mobile users, new services and new demands from users increase the complexity again. It's a see-saw now, as new management tools come out followed by newer services with little or no management framework. Back and forth. But IT will keep running until they catch up, and

that will be in the next few years.

Security is a critical issue for remote offices — how do you see the tools to handle this evolving? And are they keeping up with and integrating well with the legacy tools for the enterprise?

The security infrastructure should become invisible for remote users just as it is for local users. Desk-bound employees don't worry about the Ethernet connection under their desk.

New tools establish a secure connection between remote devices back to headquarters before any data traffic begins, including what most people consider "normal" security like username and password. This is a good trend. IT can keep up with increasingly insecure locations that must support secure connections, although it's still difficult.

What do you predict will be the biggest change or advance in remote-office networking over the next year?

I think the killer app will be a security breakthrough. Remote and mobile users mean security problems, and products that establish a secure and encrypted link between laptops and PDAs based on chips or pre-boot software routines will ease minds of IT managers everywhere. ■



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lomega introduces low-end storage device

■ BY ROBERT MCMILLAN

lomega last week unveiled an entry-level, network-attached storage device designed to work with conventional Advanced Technology Attachment drives and the Rev removable hard drives that lomega began shipping earlier this year.

Called the lomega NAS 200d, the cube-shaped appliance will give small businesses a way of adding a file server to their networks without having to pay the client licensing fees associated with a Windows Server 2003 system, says Wayne Arvidson, a director with lomega's professional storage solutions group.

The NAS 200d uses the Windows Storage Server 2003 operating system, which does not require client licenses.

"You plug it into a network, and it publishes itself as a drive to everyone on the network," Arvidson says.

The 200d will come in two models: a 320G-byte model with two 160G-byte Serial ATA drives; and a 480G-byte version with three drives. Because they will be lomega's first NAS devices that are not designed to be mounted on server racks, the storage servers will be more appropriate for small and midsize business customers that do not have racks of servers, says Brad Nisbet, program manager with IDC.

The 200d server connects to a network using a 10/100/1000M bit/sec Ethernet interface. The 480G-byte server includes two such ports.

For adding additional storage or tape back-up devices, the NAS appliances will have four USB 2.0 ports. The 480G-byte model also will have an UltraSCSI 320 port, lomega says.



lomega's NAS 200d offers an alternative to Linux-based NAS, the company says.

By September, lomega plans to begin selling a Rev drive kit that can be inserted directly into the 200d chassis. This will give users another way to create removable backups of their data, Arvidson says.

The Rev drive kit is "probably going to be similarly priced" to lomega's current Rev drives, which cost approximately \$350, Arvidson says.

The 200d will offer users a Windows-based alternative to Linux-powered NAS devices such as those sold by Snap Appliance. "Having a Microsoft-based solution makes it very easy for small and [mid-sized] businesses," he says. "There is native support for Active Directory, and the management screens are exactly like what you have with your Microsoft desktop."

The NAS 200d with 320G bytes of storage will have a list price of about \$1,400. The 480G-byte model will be priced at about \$2,000. Both products will begin shipping in June.

McMillan is a correspondent with the IDG News Service's San Francisco bureau.

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Short Takes

■ **Panacya's** flagship product for analyzing system performance has been upgraded with an improved ability to share data among its analytics modules, more pre-packaged modules and easier methods to create or modify modules. The product, until now called BusinessAware, has been renamed **Panacya Service Center** for this upgrade, which is Version 2.4. Panacya Service Center collects performance data from system elements such as operating systems, applications, databases and networks, and then analyzes and presents the data. The product lets users identify problem areas, fine-tune systems, anticipate complications and improve overall performance. Panacya Service Center's base server costs \$50,000, and each analytics module deployed costs \$1,000. Volume discounts are available.

■ **TruSecure** last week announced firewall and intrusion-detection, system-managed security service. TruSecure's Network Defense System services, which range from \$1,000 to \$2,500 per month, require installation of a gateway security appliance based on technology from CyberGuard. TruSecure handles all needed monitoring and management of firewalls and intrusion-detection systems.

■ **Network Associates** this week plans to roll out the beta version of its WebShield line of gateway security appliances, adding filtering controls to block inbound or outbound content, and set policy based on usage groups. Expected to ship in July, the three models in the WebShield 3.0 appliance line promise to block spam and viruses as well as scan inbound and outbound content for inappropriate messages or phrases. WebShield also can scan for about 300 different document types and choose to block those if they are of an unwanted size or document type. The WebShield family of appliances is priced between \$1,700 to \$12,588 depending on number of users and traffic flow.

IBM's deals highlight outsourcing

■ BY JENNIFER MEARS

Recent outsourcing wins by IBM with companies such as Morgan Stanley, Shell Oil and Australian airline Qantas reflect the growth in the outsourcing market as companies look for ways to run their IT operations more efficiently, using both onshore and offshore resources.

The deals, which were made public this month, come as Forrester Research updated its projections to show that the use of offshore services will grow more quickly than expected in the near term. Its initial projection, issued in 2002, pegged the number of U.S. services jobs moving offshore by the end of 2005 at 588,000. The research firm has upped that estimate by about 40% and says now that the number of jobs moving offshore will grow to 830,000 by that time.

"User interest and use of offshore services continues to rise particularly on the IT side," Forrester analyst John McCarthy said during a conference call with reporters to discuss the study. "Some of that is due to the fact that there has been an unprecedented amount of publicity ... talking about what people are doing and the savings they have seen. That comes at a time when businesses are trying to stretch their flat or declining IT budgets."

"Companies are looking at offshoring as a way of potentially doing more with less," he said.

Cutting costs is the key driver for moving jobs offshore, where salaries can be as low as one-tenth of what workers earn in the U.S., analysts say.

Still, analysts note that offshoring remains

Heading offshore

Offshoring represents a small fraction of overall outsourcing in the U.S., but analysts see a jump in interest in moving jobs offshore. A recent IDC report listed some of the reasons why companies are expanding their use of offshore resources:

- Costs.
- Lack of in-house resources.
- Existing investment/additional requirements.
- Deadline (time to delivery).
- Change in technology.
- Company reorganization.
- Avoid increasing head count.
- Corporate philosophy.
- Performance.
- Compliance.
- Security.

a small fraction of the total outsourcing market, which is growing.

Harris Miller, president of the Information Technology Association of America, says a study by the ITAA and Global Insight found that offshoring accounted for just 2% of the total \$10 billion outsourcing market. He adds that the interest in offshore outsourcing is growing, however, and will jump to 6% of a \$31 billion outsourcing market by 2008.

"Yes, more work is being sent offshore," he says. "But in absolute terms it's still a small fraction of the overall money spent by cor-

porations on software and services here in the United States."

Even Forrester notes the number of jobs shifted offshore in 2003 — 315,000 — represents less than 1% of all jobs in the affected categories. At the same time, the research firm says expanding services offered by offshore vendors, as well as the move by U.S. service providers to bulk up their presence overseas, will expand the number of jobs sent offshore. Forrester's report says Accenture and IBM, which recently acquired Indian business-process outsourcing firm Daksh, plan to add nearly 9,000 jobs in India by the end of next year.

"The offshore element is no longer a novelty and is a reality in terms of being a common business practice," says Jeff Kaplan, managing director of THINKstrategies.

The Royal Dutch/Shell Group of companies, for example, has reportedly signed contracts with IBM and Wipro Technologies for IT services from India. News reports in India said the outsourcing deals could be worth \$1 billion or more. Neither Shell nor IBM would comment.

Kaplan says the IBM deal with Morgan Stanley illustrates an overall trend in how businesses are using outsourcing services in general: to transform IT, rather than to simply offload legacy systems.

The Morgan Stanley deal, which extends a previous IT services agreement, calls for IBM to move the financial firm's Individual Investor Group and Discover Financial Services off mainframes and into a hosted arrangement in which Morgan Stanley has access to computing resources on demand, paying only for the resources it uses. ■

Tibco tackles business activity monitoring

■ BY ANN BEDNARZ

Integration software maker Tibco has added a product to its lineup that's aimed at helping companies better understand the correlation between system transactions and business performance.

Tibco OpsFactor 1.0 is designed for business activity monitoring (BAM), which involves aggregating and analyzing data related to business activities. Dashboards display real-time performance metrics that correlate business goals with current conditions and help users adjust resources accordingly.

Gartner describes BAM as part business

intelligence, part network and system management (NSM) monitoring, and part business process management (BPM).

"It brings the near real-time world of the [business intelligence] operational data store together with NSM monitoring and BPM through integration brokers and shared messaging," Gartner says.

Tibco competes with BAM tool vendor Information Builders, integration company webMethods, and BPM vendor Metastorm.

Tibco's OpsFactor works with its BusinessWorks business integration platform. Essentially, Tibco's integration software moves the transactions, and OpsFactor tells companies what the transactions

mean.

OpsFactor adds monitoring and measurement functions to the BusinessWorks modeling environment. Users can place sensors at any step in a process and define threshold levels so the system will identify important events.

The product includes an embedded, light version of Tibco's BusinessFactor 4.2, which provides access to process events and handles e-mail alerts; a palette design module that plugs into BusinessWorks so users can define and deploy new monitoring applications; and a customizable client interface.

OpsFactor starts at \$125,000 per server. ■

'NET
INSIDERScott
Bradner

In an example of life imitating science fiction, it now turns out that a Florida company might have significantly complicated the lives of 120,000 people in a burst of patriotic anti-terrorism fervor. The company says it has no plans to do the same thing again but apparently the only assurance of that is the company's word.

Police do not have to wait for a crime to be committed in the Philip K. Dick short story-turned-movie, "Minority Report" turned movie. Based on the word of three people that have been genetically altered so that they have precognition, law enforcement can go after someone who has not (yet) committed any crime.

A minority (computer) report

Seisint, a Boca Raton, Fla., company with 300 employees, has created the equivalent of the three "precogs" by using a big database and some pattern-matching software. News reports surfaced in mid-May that, shortly after the Sept. 11 terrorist attacks, Seisint searched its 4 billion-record database looking for people who, based on a secret Seisint formula, matched the profile of the hijackers. Seisint came up with 120,000 names. The company claimed that most of the 80 people who best matched the profile included the actual hijackers and other people already under investigation for terrorism-related reasons. According to the reports, Seisint turned over this list to federal and state law enforcement authorities. In at least one presentation, Seisint bragged that a number of people had been arrested as a result of this data.

I suppose it's possible that there are 120,000 proto-terrorists loose in the U.S. If that's the case then we're in for a very hard

time over the next few years. But I think it's far more likely that almost all of them never had, or were likely to have, a terrorist thought.

Seisint is the same company that runs the Multistate Anti-terrorism Information Exchange (MATRIX) used by law enforcement personnel in Florida and four other states to look up information about people they might be interested in. This is information law enforcement agencies are not permitted to collect for themselves. MATRIX has been quite controversial since it was announced in 2002. Thirteen states participated when MATRIX started, but eight of those have since dropped out, most because of privacy concerns.

Seisint says it has no plans to use its terrorist-finding software on the MATRIX data but, as you can imagine, not everyone accepts that claim at face value (see www.aclu.org/matrix for the American Civil Liberties Union's take). It wouldn't be fun to

have to explain to the airport screeners why your name appears on a list of potential terrorists when you have no way to know that a pattern-matching computer program, with no legal requirement for accuracy, put you on the list.

Seisint's basic business is keeping information about people. In addition to running MATRIX, Seisint offers services to, for example, let you "gain an understanding into your potential employees." In other words, the company's business depends on ignoring any possible privacy rights individuals might have. Seisint seems to do that quite well.

Disclaimer: Federal law does not let educational institutions such as Harvard ignore privacy rights, at least of students, but Harvard did not comment on this topic.

Bradner is a consultant with Harvard University's Information Systems. He can be reached at sob@sob.com.

Peregrine in search of a second chance

■ BY BOB BROWN

Having emerged from Chapter 11 bankruptcy protection last year, Peregrine Systems last week tried to convince attendees at its annual customer conference that the company is here to stay and can help them better manage their networks.

Peregrine, which underwent extreme cost-cutting under previous CEO and fixer-upper Gary Greenfield to get itself in good enough shape to exit Chapter 11, now is looking to reinvest in technology and people to support existing products and deliver new ones. It spread that word at its Synergy04 Global User Conference in Miami, where the company anticipates about 500 attendees.

One thing attendees didn't get is a clear picture of Peregrine's financial status, given that the company only recently filed a statement for the 12-month period ending on March 31, 2003 (it posted a revenue drop vs. the year before, but was profitable) and has yet to say when it will resume issuing regular quarterly results. The San Diego company says by law it must stay tight-lipped for now about its financials.

But John Mutch, president and CEO, said that Peregrine plans to increase the number of service professionals on its staff who are experts in IT best practices, and is intent on boosting research and development spending. Over the past few years, the company has shed close to 4,000 employees (it now has around 650) and piled up about \$4 billion in losses.

"We cut deep....it's time to reinvest in the company," he said.

Peregrine last week showed customers—and competitors such as BMC Software—that it's not standing pat by introducing a version of its help desk software, Service-

Center 6 features improved Web and Windows clients and new reporting capabilities, and makes it easier to add help desk users when new modules are fitted into ServiceCenter, the company says.

A new version of AssetCenter, the company's asset management product, is due in the fall.

Peregrine last week also will announce plans to combine its release management technology with change management technology from IBM Tivoli to make available a joint offering. Mutch said IBM's public support now, as well as during the bankruptcy process, is vital to Peregrine's sustainability (Peregrine generates about one-fifth of its revenue through IBM).

Peregrine is revising its pricing for new customers of its Service Control and Expense Control offerings. In the past a customer had to buy the same number of licenses for a new module as it had for the platform, customers now will be able to buy modules based more closely on the number of end users who actually need it.

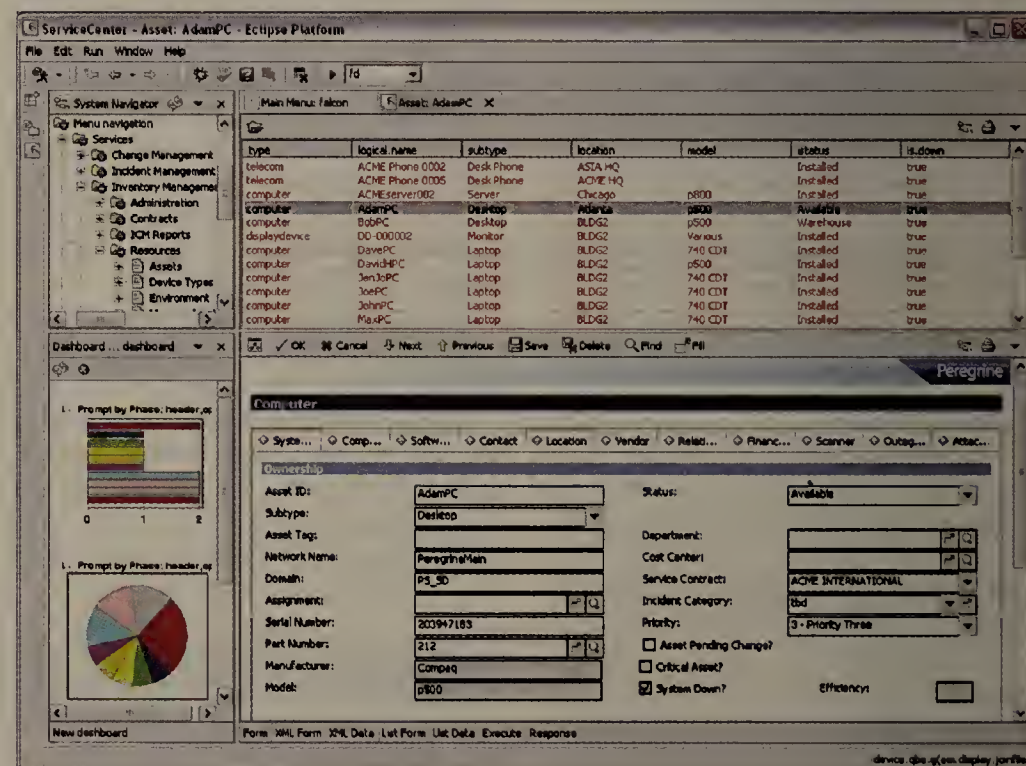
Mutch said that all the software advancements in the world are useless though, unless customers take advantage of them, adding that far too few customers do. To that point, Peregrine is planning a major effort to offer more services in conjunction with its software to ensure customers get the most out of what they buy and buy what they actually need.

The company has devised a model that it says takes customers step by step from being reactive to proactive. He called the effort "HPish" in that it has similarities HP's Adaptive Computing model of synching and automating computing resources and services.

Vince Andreasen, lead technical support analyst for Carlson Hospitality in Omaha,

Problem solver

Peregrine's ServiceCenter 6 features a revised look that beta testers say is easier to navigate than past versions of the help desk management software.



Neb., says his organization has used ServiceCenter for more than two years and didn't seriously consider dumping Peregrine despite the software company's challenges in bouncing back from Chapter 11 and accounting fraud issues.

"We knew even if the company folded the product would survive," says Andreasen, who last year helped Peregrine test ServiceCenter 6. Carlson currently uses Version 5.12 to support 800-plus hotels through its 18-person help desk in Omaha.

Andreasen says he is impressed with the GUI redesign in Version 6, which he says is

in sync with Carlson's desire to move to a more Web-based management model. Carlson, which is in the midst of rolling out the IT Infrastructure Library of best practices across its IT organization, is also encouraged by redoubled efforts at Peregrine to train more of its staff on ITIL, Andreasen says. ■



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MCI offers an easier path to IP service

VPN Network Gateway lets customers move to IP while protecting legacy services.

■ BY DENISE PAPPALARDO

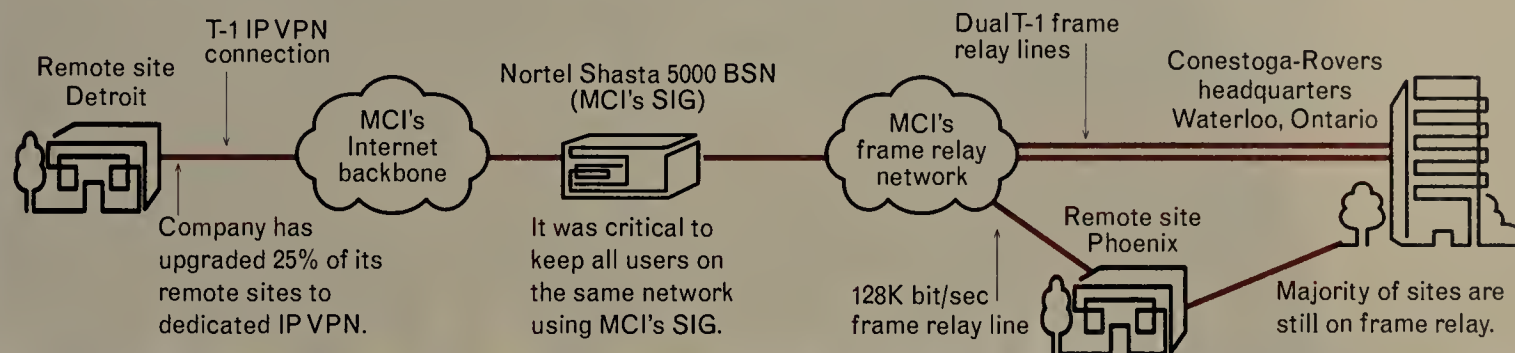
MCI is making it possible for users to upgrade to IP while maintaining their investment in legacy technology with the second phase of its Secure Internet Gateway service.

The service, called VPN Network Gateway, lets Private IP, frame relay, ATM and IP VPN customers communicate securely as if they are on one network. The carrier has deployed gateways between its traditional data, public IP and Multi-protocol Layer Switching networks to provide users with one unified WAN despite disparate network connectivity at multiple sites.

Conestoga-Rovers & Associates uses the service to migrate to IP at some sites while maintaining its investment in legacy frame relay. The professional services company in Waterloo, Ontario, has upgraded five of

SIG benefits

Conestoga-Rovers is using MCI's Secure Internet Gateway service to ease its transition from frame relay to IP.



20 sites to MCI's IP VPN service, which supports secure IPSec tunnels over the Internet.

The company needed more bandwidth than frame relay could economically provide, says David Hacker, IS manager at Conestoga-Rovers. "We're expecting to save about 20% to 30% depending on our ongoing bandwidth requirements," he says.

Four of the five sites have burstable T-1s and the fifth has a dedicated T-1. "We're getting more bang for our buck," he says.

To support the service across its multiple networks MCI has deployed five Nortel Shasta 5000 BSN gateways in the U.S. and one in London. Another gateway is expected to be deployed in Hong Kong by the end of June.

MCI has touted its SIG offerings for a year, but service deployment hit a snag not long after the first phase launched in June 2003. This offering lets users support dial-up access to their VPN without the need to deploy and maintain a separate Nortel Contivity device.

But interoperability issues forced MCI to push off the rollout of its VPN Network Gateway service, the second phase of its SIG offering. MCI cited interoperability issues related to IPSec tunnel monitoring across Cisco, Lucent and Nortel devices as the reason for missing its planned October launch.

The IETF is working on a draft specification, RFC-3706, to address this problem, which is called Dead Peer Detection, a keep-alive mechanism used with IPSec so a carrier knows instantly if a tunnel goes down.

MCI expects all its vendors to support

this specification, but has opted to support a proprietary method of monitoring IPSec tunnels instead of waiting. When all three vendors support the standard, the carrier says it will upgrade to RFC-3706-compliant software.

The third phase of MCI's SIG offering, a network-based firewall, is expected by year-end. This service will offer customers another level of filtering and security between network sites connecting at the SIG.

The VPN Network Gateway service is

available in the U.S. and to U.S.-based multinational customers. MCI says it will be available to users based in Europe and the Asia-Pacific region by year-end.

VPN Network Gateway customers are charged based on how much bandwidth they use. A 256K bit/sec interconnect costs about \$200 per month, and a 1.544M bit/sec interconnect costs about \$800 per month. Customers also pay the same monthly rates for their traditional data or IP services in addition to the VPN Network Gateway fees. ■

Short Takes

■ **Verizon** is selling its wireline businesses in Hawaii to **The Carlyle Group** for \$1.65 billion. Carlyle is a private equity firm headed by former IBM CEO Lou Gerstner. William Kennard, former FCC chairman, is a managing director. The deal includes 707,000 access lines, services and assets of Verizon Long Distance, Verizon Online and its directory publishing businesses in Hawaii. The deal is expected to close next year and is contingent on state and federal approval.

■ A **software glitch** slowed **Akamai Technologies'** servers and made it difficult on May 24 to reach some of its customers' Web sites, the company says. Some Akamai customers experienced "intermittent performance problems and degradation" for about 90 minutes, between 8 and 9:30 a.m. EST. A bug in content management software that Akamai customers use to update content on Akamai servers caused the problem.

Lucent places a bet on net-based IP services

■ BY TIM GREENE

Part of the rationale behind Lucent's pending purchase of Telica is the belief that corporations will swap their PBXs for network-based IP services.

The Lucent-Telica union will bring Lucent a much-needed high-capacity media gateway, the Telica Plexus 9000, as well as Telica's Plus Signaling Gateway and Plus Media Gateway Controller.

This gear will make it possible for service providers to push voice, video and messaging services over one IP pipe to customers. It also will enable customer interfaces so users can manage and control their own services, says Dave Geary, COO of Lucent Technologies Integrated Network Solutions group.

"The introduction of this technology gives service providers the opportunity to

change the mix on premise-based solutions [PBXs] to service-provider hosted," he says, adding that the mix is now 85% PBX vs. 15% hosted in the U.S. "[PBX] sales are even a bigger percentage outside the U.S."

The transition won't happen right away because of the vast TDM networks in place today and the long technology evaluation cycles IP is going through, Geary says. But being ready when major carriers start buying will pay off. "It's one of the, if not the, biggest growth opportunities in the industry," he says.

While Lucent looks for a big payoff from the \$295 million stock purchase, it still faces the work of integrating the two companies' product lines.

Telica products will be rolled into Lucent's Accelerate VoIP Solutions

See Lucent, page 28

A circular inset showing a close-up of a computer keyboard. The keys are illuminated with a warm, yellowish light, creating a grid-like pattern of light and shadow. Overlaid on this image is the text "Ingredient #1 for building business." in a bold, white, sans-serif font. The text is centered and spans across the middle of the circular frame. The background of the entire advertisement is a dark, textured surface, possibly a wall or a piece of fabric, with a subtle pattern of small, light-colored dots or fibers.

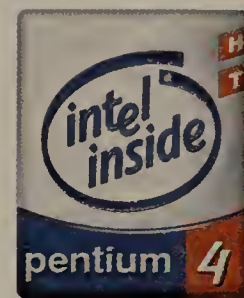
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*Wireless connectivity and some features may require you to purchase additional software, services or external hardware. System performance, battery life, wireless performance and functionality will vary depending on the specific hardware and software you use. See http://www.intel.com/products/centrino/more_info for more information. **Look for systems with the Intel® Pentium® 4 Processor with HT Technology logo which your system may have. Hyper-Threading Technology. Performance will vary depending on the specific hardware and software you use. See <http://www.intel.com/info/hyperthreading> for information. ©2004 Intel Corporation. Intel, the Intel logo, Intel Inside, Intel Inside logo, Intel Inside logo with "Intel Inside" text, Intel Inside logo with "Intel Inside" text and "Intel Inside" text are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. All rights reserved.

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EYE ON THE CARRIERS

Johna Till Johnson



Freud once famously asked, "What do women want?" The question is amusing because it implies that half the human race has desires that are complex, unfathomable and incomprehensible — so much so that the very guy who made his living fathoming the unfathomable was stumped.

It's also funny because the answer's so obvious. Women want respect, happiness, power, status, money, fulfilling relationships — basically, all the same things that motivate pretty much every other Homo sapien.

I sometimes have the same reaction when carriers ask, "But what do telecom

What do telecom managers want? . . . It's simple

managers want?" Folks, don't make this question harder than it sounds. Try the basics:

- **Clear, comprehensible contracts.** Your average telecom contract reads as though its development has been offshored to Mars. The worst offender by far is a little outfit in New Jersey, which has invented an entire language that telco managers must learn if they wish to do business with this provider. Spare us the Esperanto — just tell us in English what services are and aren't included.

- **Meaningful service-level agreements.** So the latency between backbone routers in your network is a maximum of 25 millisec? Whoopee. That and several pounds of change will get you a grande decaf-half-skim at Starbucks. What we telco managers really want to know is the total delay between points A and B on our networks — and what you're going to do about it if it unexpectedly spikes.

- **No finger-pointing when problems occur.** I don't care if it's the local exchange carrier's (LEC) fault or the moon is in Pluto or Mercury is in retrograde — just find and fix the problem, fast. Some IT executives I've worked with report hosting conference calls between the LEC, the international provider and the domestic provider just to troubleshoot the problem. That shouldn't have to happen. Our day jobs involve running networks, not peace negotiations.

- **Responsiveness.** When we call or e-mail you, it's not because we're feeling lonely and looking for company. It's because we really need something. So get back to us pronto, OK? (It might help to keep reminding yourself that you're in the service business.)

- **Speedier installation times.** It typically takes four to 12 weeks to install a T-1 circuit (average is about six weeks). Worse, there's no clear justification. "There are

always a million and one excuses," says the communications director for a large government agency. Carriers: Please explain exactly how long installation will take and why.

- **Accurate bills.** I recently spoke with an executive in the financial services industry who terminated his company's contract with a well-known cellular provider that couldn't generate bills that were within an order of magnitude of being correct. "Adding a zero to the number of users we have, that's a pretty egregious mistake," he says.

In other words: Telco managers want solid performance and fulfilling relationships with their providers. How difficult is that?

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

Microsoft agrees to merger of anti-spam efforts

Company's Caller ID proposal will be melded with Sender Policy Framework.

■ BY PAUL ROBERTS

Microsoft has agreed to merge its recently announced Caller ID anti-spam proposal with another, called Sender Policy Framework.

The company reached an agreement with SPF's author, Meng Weng Wong, to

roll the two proposals into one specification. The finished specification will be published in June and submitted to the IETF standards group for evaluation. If adopted, the specification will provide a way to close loopholes in the current system for sending and receiving e-mail that let e-mail senders fake, or spoof, the ori-

gin of their messages, Microsoft says.

The joint specification, which does not have a name, caps months of discussions between Wong, co-founder and CTO at Pobox.com, and Microsoft. The proposal is intended to resolve conflicts between two similar plans for stopping domain spoofing, a common tactic of those who

send spam.

Microsoft Chairman and Chief Software Architect Bill Gates unveiled Caller ID in March. The proposed standard asks e-mail senders to publish the IP address of their outgoing e-mail servers as part of an XML format e-mail "policy" in the DNS record for their domain. E-mail servers and clients that receive messages check the DNS record and match the "from" address in the message header to the published address of the approved sending servers. E-mail messages that don't match the source address can be discarded, Microsoft says.

SPF also requires e-mail senders to modify DNS to declare which servers can send mail from a particular Internet domain. However, SPF only checks for spoofing at the message transport, or envelope, level, verifying the "bounce back" address for an e-mail, which is sent before the body of a message is received and tells the receiving e-mail server where to send rejection notices.

Under the merger proposal, organizations that send e-mail will publish the addresses of their outgoing e-mail servers in DNS using XML. Companies will be able to check for spoofing at the envelope level, as proposed by SPF, and in the message body, as proposed by Microsoft. That will allow companies to use the SPF method to reject spam messages before they are sent, if spoofing is detected at the message envelope. For messages that require a deeper inspection of the message contents, the Caller ID method can be used, Microsoft says.

Roberts is a correspondent with IDG News Service's Boston bureau.

Lucent

continued from page 25

product line, a conglomeration of Lucent gear that the company labeled under one family name last fall. Accelerate also includes service applications such as IP Centrex and voice and data VPNs.

Lucent says it is hoping the addition of gateways to Accelerate will earn the company a larger share of the VoIP equipment market, which IDC projects will top \$15 billion by 2007.

The Telica Plexus 9000 is one of the largest media gateways, and a large gateway is something Lucent lacked and large carrier customers need, says Joe McGarvey, a senior analyst with Current Analysis.

With the deal expected to close by year-end, Lucent will have about 18 months to integrate the Telica gear in its product line before major carriers settle on their IP vendors, McGarvey says. Lucent has a leg up, he says, because carriers like to stick with their current vendors to ensure interoperability with older network elements. Lucent gear is in all the major North American long-distance and local carriers' networks.

One problem with the deal is that it gives Lucent two softswitches, the switching software that controls the gateways. "I wasn't

reassured they have a solid plan in place for that," McGarvey says. But the two could be combined, with Lucent's providing the local switching modules and Telica providing the trunking modules, he says.

Lucent says the Telica gear is ready now for wired networks and that by year-end it will be fully ready for deployment in wireless networks, although Telica notes its gear is already deployed in the former AT&T Wireless network.

The measure of the Telica deal's success will be whether some of Lucent's major circuit-switched customers become Lucent VoIP customers, says Janet Davidson, president of Lucent Technologies Integrated Network Solutions business.

Verizon has a limited number of Telica gateways in its network and in January signed an exclusive 18-month deal with Nortel for IP gear, but after that Verizon can entertain bids from other vendors.

Meanwhile, other major carriers are experimenting with small IP deployments, but should be making decisions on major rollouts in the same time frame, McGarvey says. ■

Lucent to buy Telica

With the purchase of Telica, Lucent adds important elements to its Accelerate line of IP gear.

THE DEAL

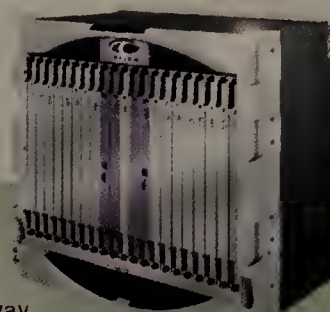
\$295 million in Lucent stock plus incentives for key Telica employees.

THE KEY ASSETS

Plexus 9000 Gateway; Signaling Gateway

ISSUE TO RESOLVE

Each company has its own softswitch. Lucent needs to pick one and migrate customers of the other.



Softswitches and media gateways made up

90%

of Q1 2004 next-generation voice-equipment revenue industry-wide.

SOURCE: INFONETICS

Technology update

■ AN INSIDE LOOK AT THE TECHNOLOGIES AND STANDARDS SHAPING YOUR NETWORK

RPR ups efficiency of metro Ethernet

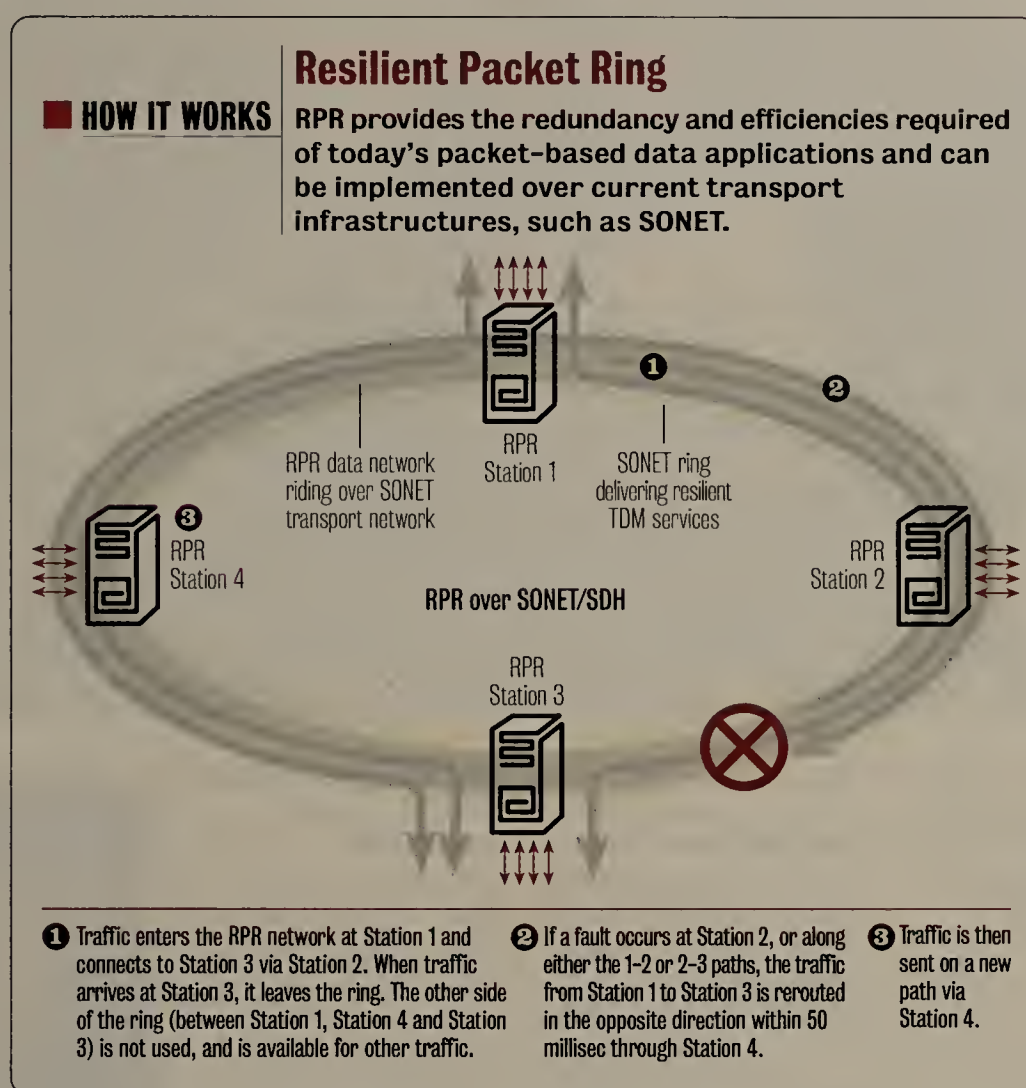
■ BY TEJAS VASHI

Companies traditionally have gained basic resiliency for their metropolitan Ethernet networks through a Layer 2 mechanism such as Spanning Tree or Layer 3 routing protocols. But these mechanisms, with their few-second network restoration times, are inadequate for delay- and jitter-sensitive data applications that are proliferating rapidly on enterprise networks. To gain greater resiliency, corporations have had to install fixed-bandwidth point-to-point circuits, or fiber pairs, between campus nodes along with back-up paths for protection — a costly endeavor.

What companies need is a metropolitan Ethernet architecture with the resiliency of SONET but with significant network efficiencies for packet-based services. Resilient Packet Ring (RPR) is an emerging Layer 2 media access control (MAC) technology that meets those needs. The IEEE created a draft specification for RPR and is expected to ratify the standard this year.

RPR uses Ethernet switching and a dual counter-rotating ring topology to provide SONET-like network resiliency and optimized bandwidth usage, while delivering multipoint Ethernet/IP services. RPR maintains its own protection scheme and uses physical-layer alarm information and Layer 2 protocol communications to detect node and/or link failures. When a failure is detected, the RPR switching mechanism restores networks in less than 50 millsec.

Because RPR is a Layer 2 MAC-based technology, it can operate over multiple physical layers, including SONET. Therefore, corporations can reap the benefits of RPR by having it ride over the SONET network to deliver the resilient, efficient, mul-



tipoint functionality and scalability of data applications such as VoIP, packet video, business continuance and distance learning.

Or they can install multiservice provisioning platforms, which are optimized for TDM services but also can support advanced data applications via RPR over SONET. The advantage is that existing TDM

services are maintained, while a smooth migration to packet-based services is enabled.

Another major advantage of RPR's dual-rotating ring design is that Ethernet traffic is sent in both directions on the ring to achieve the maximum bandwidth utilization. Unlike older ring-based data networks such as token ring or FDDI, RPR

uses a spatial reuse mechanism. Rather than requiring traffic to traverse the entire ring even though a destination node is only a hop away, RPR sends it there directly, keeping the rest of the ring bandwidth available for use by other stations on the network.

To further enhance the network efficiency and support multimedia applications, the IEEE has included a classification scheme and a fairness algorithm in the RPR specification. This guarantees that jitter- and delay-sensitive traffic is always given higher-priority access to the network. Meanwhile, best effort (Internet type) data traffic is ensured equal access and a "fair" share of the remaining ring bandwidth.

RPR also uses statistical multiplexing so that bandwidth can be oversubscribed, while establishing committed information rate (CIR) and peak-rate thresholds on a per-application basis. This guarantees each enterprise application a CIR and the ability to burst up to the peak rates when bandwidth is available. With such a mechanism, each department is charged only for using extra bandwidth rather than being billed for a larger, nailed-up circuit, regardless of use.

Widespread corporate adoption of RPR will help usher in the cost-effective transport of popular Ethernet and IP communications services. RPR transport will provide efficient bandwidth protection, accommodate bursty data traffic and provide the quality of service needed for these advanced packet applications.

Vashi is a senior product line manager at Cisco. He can be reached at tvashi@cisco.com.

Ask Dr. Internet

By Steve Blass

How can we convert Web forms for offline use, so people can download the forms, fill them out at their leisure (even saving partially completed forms and finishing later), and then finally submit them when they are completed and an Internet connection is available?

With Microsoft Office 2000 or later, have people download the forms and use Word for the data entry. Partially completed forms can be saved and

submitted later at a user's convenience. For this to work, your HTML form must contain fully qualified URLs for the form action and any image or style sheet links on the page. With this approach, there is no protection for any of the content in the form page. To take advantage of the form protection feature in Word, edit the original form in Word and choose the Protect Document for Forms setting in the Protect Document selection in the Tools menu. Providing offline versions of your forms as RTF or

Word files through alternate links on your Web pages can help users keep things straight because these files will open in Word by default. While specific to newer versions of Office, this technique can be useful for offline Web form completion and later submission.

Blass is a network architect at Change@Work in Houston. He can be reached at dr.internet@changeatwork.com.

GEARHEAD
INSIDE THE
NETWORK
MACHINEMark
Gibbs

Last week we claimed was the final week of covering RSS — we fibbed. We have a couple of other items to cover that, we think you will agree, are worth extending this series for.

So first up is something we left out of our discussion of NewsGator: When you are on a Web page and there's an RSS feed that you'd like to subscribe to, right click on it, and you'll find "Subscribe in NewsGator" in the context menu.

The only catch is that the menu item calls a script, and anti-virus programs are likely to complain that this is suspicious activity so you have to confirm that you want the script to run. An option here is to always let the script run but we, as yet, have no idea to what degree this might compromise overall security. Ho-hum.

Next, we have an add-on: RssExplorer, an Internet Explorer toolbar object that helps you find and subscribe to RSS feeds using your preferred news aggregator (<http://rssexplorer.planethood.com>). You can select

RSS technology, the final-take encore

which aggregation tool should handle the feed subscription and have RssExplorer test the feed for validity.

The validity test involves RssExplorer submitting the feed URL to Feed Validator (<http://feeds.archive.org/validator/>) through an HTTP GET request, thus: <http://feeds.archive.org/validator/check?url={ }>, where "{ }" should be replaced by the fully qualified URL of an RSS or Atom feed to be checked.

We particularly like the icon they provide for your feeds that have been checked successfully. While most aggregators won't die a horrible death if a feed has invalid syntax, feed owners probably would prefer that their feeds are usable.

Calling all geeks

Which makes us think: It should be fairly easy to create a Perl script that once per day spiders a site, finds all of the RSS feeds and validates them with Feed Validator, sending a status report to the Web master.

Anyone want to be the first entrant into the Gearhead Geek Hall of Fame?

As if those last two items weren't enough, we also have another RSS aggregator called Pluck. Yes, Pluck (you in the back, no

snickering) from Pluck Corp., but this time it's one that is integrated with Internet Explorer.

Implemented as an Explorer bar object, Pluck makes subscribing to feeds a matter of dragging and dropping to Pluck folders. A number of subscriptions already are set up, and clicking on a feed loads a list of feed items into the top half of the browser's main pane and the content referenced by any selected item into the lower half.

Pluck also includes a system tray icon that will open Pluck in a browser window if you want to get to it quickly. The system tray icon also displays notifications of feed updates (you can turn it off).

But Pluck isn't only an RSS aggregator — it also provides a mechanism for privately or publicly sharing links to Web pages and notes about them along with your favorites lists. There's even a Power Search that searches and filters Google, eBay and Amazon.

If you don't want to add yet another application just for reading news feeds, Pluck might be a good choice for you.

Our final RSS item has an interesting concept that extends the idea of how to publish feeds on a Web site. This method, called JSMsg, is unique, and lets users

who don't have any aggregator installed view feeds.

Easy news feeds

As the designer of JSMsg, John Repici of Creativyst Software, explains: "JSMsg is NOT 'yet another RSS flavor.' While RSS is designed to let individuals display news feeds on installed reader software, JSMsg is designed to let Web masters display news feeds directly on Web pages."

As Repici points out, JSMsg doesn't require server-side scripting, doesn't require a specific browser or operating system, and doesn't require plug-ins.

But for heavily trafficked Web sites, a JSMsg feed has some compelling advantages because the actual feed content is just a file of JavaScript code. This means the file will be cached by browsers and intermediate cache mechanisms based on HTTP 304 status messages and other criteria.

Sound interesting? Sure does, and we'll tell you all about it . . . next week in our really, honestly last column on RSS. And the week after, we will discuss the intricacies of DidTheyReadIt as Backspin threatened last week.

Last words to gearhead@gibbs.com.



Cool Tools

Quick takes
on high-tech toys
By Keith Shaw

The scoop: NoteRiser, from Contour Design, about \$130.

What it does: The NoteRiser is an ergonomic notebook stand that helps adjust the location and position of a notebook computer. When used with an external keyboard, the increased height of the notebook screen can help reduce eyestrain.

The NoteRiser weighs less than 1 pound, making it appealing to workers who use notebooks a lot when they travel.

Why it's cool: The stand is made of a durable metal that keeps it sturdy and has a futuristic-looking sleek metallic finish.

Using the NoteRiser also seemed to dissipate the heat away from the notebook, which is a good thing if your notebook tends to get hot.

It was very easy to adjust the stand for different heights. For long-term use you can attach the Click Strips (Velcro-like stickers) to the notebook and the stand to make the arrangement more permanent.

A caveat: We were a bit concerned with the ergonomics of using the note-

The futuristic-looking NoteRiser can help reduce eyestrain.

book stand without an external keyboard. Photos from the company showed people using the NoteRiser with an external keyboard, not the notebook keyboard.

This would seem to defeat the purpose of using it when traveling, as it would mean taking an extra keyboard with you. But you can certainly use the NoteRiser without an external keyboard.

Grade: ★★★★★ (out of five)

The scoop: NetDisk, from XiMeta, about \$150.

What it does: The XiMeta NetDisk is a network direct-attached storage system that can be added to a network via an Ethernet cable (connecting to a router, for example), or to a computer via a USB 2.0 port.

When connected via Ethernet, any computer on the network (with the appropriate driver) can attach to the NetDisk, and it shows up as a local hard drive. For users who just want an external hard drive for travel, the NetDisk can attach via USB cable and connect directly to any PC.

Why it's cool: There's a lot of external hard drives that you can connect to one computer for extra storage.

This is the first one we've seen that you can connect directly to a network. All of our multimedia files (such as music, photos and videos) that were on multiple computers now could sit on a single device on the network instead of on a computer or server that had to remain powered on in order to use it. Accessing the drive is extremely simple — the drive shows up as a local hard drive,



XiMeta's NetDisk network direct-attached storage system links PCs to a network via Ethernet or can be used as external hard drive on the road via USB.

which means we didn't have to set it up as a network drive or do any of that crazy Microsoft drive "sharing" that drives us nuts.

A caveat: During our testing, we had some difficulty transferring files to the NetDisk from an 802.11b wireless LAN connection (the company then told us it recommends an 802.11g network). So we'd recommend this heartily for use on a higher-speed data network (either 802.11g or Ethernet), but beware if you are still connecting to your router via 802.11b.

Grade: ★★★★★ (4.5 if on a faster network).

Shaw can be reached at kshaw@nww.com.



When taking your company wireless, foresight is 20/20.

HP can help you predict the business benefits of a large-scale wireless solution without large-scale risks. When you envision your ideal enterprise-wide wireless solution, what do you see? No doubt security, manageability, scalability and flexibility jump immediately into focus. HP can now offer you a glimpse into your wireless future by helping you develop a wireless pilot designed for your business. Our service professionals will help you build an end-to-end, secure wireless network using HP open-standards technologies. These work in conjunction with a wide range of tested, best-of-breed solutions from our strategic software partners, so you are not confined by a limited selection of proprietary products. HP pilots offer a unique opportunity to tally the business benefits of a well-planned wireless network before you move to a full-scale implementation. And of course, we'll provide a wealth of choices, so you'll be assured your pilot is a perfect fit for your business. Demand confidence in wireless technologies. Demand proven cost-efficiency. Demand HP.

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ON TECHNOLOGY

John Dix

CIOs' thoughts about evaluating techs, agility

Besides being treated to research about why companies get different returns from similar IT investments (see the On Technology column last week at www.nwfusion.com, DocFinder: 2240), IT executives who attended the recent 2004 MIT Sloan CIO Symposium were treated to panel discussions on everything from enabling the agile enterprise to evaluating emerging technologies.

Regarding the latter, several executives shared their thoughts on how to get this right. Steve Flammini, CTO at Partners Healthcare in Boston, said, "We define success before we pilot the technology, then test afterward." That way you have a ruler to gauge how far you have come.

Jim Medeiros, vice president of I.S. Shared Services at UPS, said his company has a formal evaluation process, "but there is always the danger that users get ahead of evaluators. Sometimes the evaluation isn't even done, but business units are already using the technology. If you don't follow the rules, it's anarchy. But if you follow them too closely you can get out of step with business needs."

Flammini echoed that. "If the process is too rigid, you stifle innovation. We do a lot of pilots. That gives us a handle on things like scalability and deployability. And it also gives us a sense if the ROI is there."

Panel member Robert Walmsley, president and CEO of Cape Clear Software, offered the outsider's view. As a small firm looking for the attention of big companies, he said "too many processes are set up to avoid risk, rather than identify innovation. Do you want people in the advanced technology group with a retail banking background or a venture capital background?"

GM's Chief Architect Richard Taggart was at the event to participate on another panel about emerging technologies, but spoke privately with *Network World* about agility. "Standardization and good architecture are the keys," Taggart said.

Regarding the former, GM has reduced the number of applications it uses from 7,000 three years ago to 3,000 today. (The company has also reduced its IT budget from about \$4 billion per year to \$3 billion.)

And GM is working with the Enterprise Architecture Interest Group (www.eaig.org) to develop architecture standards that should make it more fleet of foot. "Think of them as a set of reusable building blocks that can be tied together in different ways to address common business objectives like reducing cycle times or speeding decision-making," Taggart said. The first deliverables are due in June.

— John Dix
Editor in chief
jdix@nww.com

Movies go digital

Regarding "Network pros: You oughta be in pictures" (www.nwfusion.com, DocFinder: 2223): "Zipping movie files over satellite" is Hollywood's future. As you astutely observe, the studios, theater owners and technical community are grappling with how best to implement a digital cinema solution.

It's worth underscoring that satellite technology allows for point-to-multipoint distribution, which makes eminent financial sense and poses an inherent advantage over other delivery methods, such as fiber. Satellite security has been accepted. This delivery system, in coordination with digitally "fingerprinting" every viewing, works toward addressing the multibillion-dollar piracy problem that burdens this industry. Furthermore, satellite is the first distribution means to reach compliance with the Digital Cinema Initiative's new architecture requirements.

As a digital cinema supporter, I fully agree "this is a crucial year for making the move to the new system." It truly will be a benefit to both the movie industry and the global movie-going public when digital cinema comes to a theater near you.

Joe Amor
Raleigh, N.C.

Scumware solution

Regarding Mark Gibbs' Backspin column "Getting rid of scumware. Mostly?" (DocFinder: 2224): My anti-scumware solution for the past three months has been to install Mozilla Firefox on my systems and my clients' systems.

Firefox is relatively lightweight (only about a 6.5M-byte download), renders Web pages as well as or better than Internet Explorer 6, has no ActiveX capability (thus no Trojan spyware installation

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

opinions!

capabilities) and won't open another window unless the user explicitly clicks on a link to do so. It supports Java and Flash.

Firefox is not for everyone — the current version is 0.8, and those with corporate intranet applications dependent on the Microsoft monoculture won't be able to use it due to lack of ActiveX. For general browsing, though, it's a dream.

Bob Williams
Lancaster, Ohio

DSL debacle

Regarding Daniel Briere's column, "The Rodney Dangerfields of telecom" (DocFinder: 2225): I can appreciate Briere's frustration with Verizon. I ordered DSL from Verizon in February 2003. Six months later, my DSL service was unceremoniously disconnected.

After spending hours with support personnel, I was informed by a tech guy that he knew what the problem was: Verizon had just switched over its billing services and somehow my DSL had been inadvertently shut off. He couldn't do anything because it was a billing issue.

I contacted billing and was told they could not include the DSL charge on my phone bill any longer, and my DSL service had been disconnected for that reason (despite the fact that Verizon's TV commercials barrage the viewer about combining charges). Even though my phone bill (including the DSL portion) was fully paid, I was told I would have to provide them with a credit card number to get my DSL service back. I do not like giving out my credit card number and chose not to do this.

I asked if there was any other way for me to continue with my DSL account, such as paying in advance for six months of service and was told no. I now access the 'Net with a 56K bit/sec modem.

Wayne Schneider
Hazleton, Pa.



More online! www.nwfusion.com Find out what readers are saying about these and other topics. **DocFinder: 2222**



SECURITY ISSUES

Bruce Schneier

Microsoft's actions speak louder than words

The security of your computer and network depends on two things: what you do to secure your computer and network, and what everyone else does to secure their computers and networks. It's not enough for you to maintain a secure network. If other people don't maintain their security, we're all more vulnerable to attack. When many unsecure computers are connected to the Internet, worms spread faster and more extensively, distributed denial-of-service attacks are easier to launch, and spammers have more platforms from which to send e-mail. The more unsecure the average computer on the Internet is, the more unsecure your computer is.

It's like malaria: everyone is safer when we all work together to drain the swamps and increase the level of hygiene in our community.

This is the backdrop against which to view Microsoft's Windows XP security upgrade: Service Pack 2 (SP2). SP2 is a major security upgrade. It includes features such as Windows Firewall, an enhanced personal firewall that is turned on by default, better automatic patching and other security improvements.

Initial news stories reported that Microsoft would make this upgrade available to all XP users, both licensed and unlicensed. To me, this was a smart move on Microsoft's part. Think about all the ways the company would benefit. Licensed users would be more secure and happier. Worms that attack Microsoft products would be less virulent, so Microsoft wouldn't look as bad in the press. Microsoft would win, its customers would win and the Internet would win. It's the kind of marketing move about which best-selling books are written.

Then Microsoft said the initial comments were wrong; SP2 would not run on pirated copies of XP. Only legal copies of the software could be secured. This is the wrong decision, for all the same reasons that the initial decision was the correct one.

Of course, Microsoft is within its rights to deny service to pirates. It makes sense for the company to make sure performance or feature upgrades do not run on pirated software. Microsoft wants to deny the benefits of its products to people who haven't paid for them, and entice these people to become licensed users. But security upgrades are different. Microsoft is harming its licensed users by denying security to unlicensed users.

This decision, more than anything else Microsoft has said or done in the past few years, proves to me that security is not the company's first priority. Here was a chance for Microsoft to do the right thing: to put security ahead of profits. Here was a chance to look good in the press and improve security for all its users worldwide. Microsoft says that improving security is the most important thing, but its actions prove otherwise.

SP2 is an important security upgrade to Windows XP, and I hope it is widely installed among licensed XP users. I also hope it is quickly pirated, so unlicensed XP users also can install it. For me to remain secure on the Internet, I need everyone to become more secure. And the more people who install SP2, the more we all benefit.

Schneier is CTO of Counterpane Internet Security and author of Beyond Fear: Thinking Sensibly About Security in an Uncertain World. He can be reached at www.schneier.com.

Microsoft says that improving security is the most important thing, but its actions prove otherwise.



CACHE ADVANCE

Linda Musthaler

My eyes have been opened to the need for Web site accessibility for all. Ironically, I had to pretend that I am blind for the message to sink in.

"Accessibility" means making facilities and resources usable by people with disabilities.

In June 2001, new U.S. standards went into effect that require or encourage that IT resources be accessible. Section 508 of the Americans with Disabilities Act requires that all electronic and information technology purchased by federal agencies, or provided to the public by those agencies, be accessible as measured by a set of standards. This includes Web sites.

Your company might not be required by law to make its Web site accessible, but it's a smart business practice. It's also the socially responsible thing to do.

Web sites are accessible when they are designed to work well with assistive technologies such as screen readers or built-in operating system accessibility features such as enlarged fonts. If your Web site can't be "read" by vision-impaired visitors, you could be losing potential customers. On the other hand, if your Web site is designed to be usable by people with no or low vision, you could gain loyal customers for life.

During a recent visit to the IBM Accessibility Center in Austin, Texas, I used several tools that read aloud the contents and navigation of Web sites and software applications. Using IBM's screen reader program called Home Page Reader (HPR) and turning off my monitor, I sampled the experience of "reading" a Web site without being able to actually see the text and graphics on the screen. HPR uses voice synthesis to read content and present options, such as links to other pages or sites.

Using HPR showed me that very few Web sites are designed to be read aloud. Most Web sites are too confusing, or lack alternative text for graphics, or use poor techniques for spacing content on the page.

Large companies with big Web development budgets have an advantage when it comes to remediating or replacing inaccessible Web

Help Web sites get some AIR

pages. They can afford the time and effort to make their pages or entire sites accessible. Unfortunately, small or public organizations such as government agencies, colleges, school districts, and nonprofit groups might never have the resources to improve their Web sites — yet these are often the sites that people with disabilities need to visit most.

Knowbility has stepped in to level the playing field for such organizations. Knowbility, a nonprofit in Austin, helps organizations make technology accessible to everyone. In addition to providing classes on designing a Web site for accessibility, Knowbility hosts a program called the Accessibility Internet Rally (AIR). AIR features Web development events held in various U.S. cities. This year, I have the honor of being on the board of advisors for AIR-Houston, to be held Oct. 16.

AIR brings together teams of Web developers who compete to design "the best" accessible Web site for designated non-profit organizations. In exchange, the team members get free training in the latest tools and techniques of accessible Web development. Last year, AIR-Austin drew 30 teams of three to five people each. As a result, Knowbility gave more than 100 developers the skills to take back to their schools or businesses to propagate accessible Web design for other sites. But the true winners are the 30 non-profit groups that each gained a fabulous fully accessible Web site.

AIR can use your support. It needs sponsors, Web developers, non-profit and K-12 school participants and community volunteers. With a goal to expand into more cities and universities, Knowbility also needs bright IT professionals who can help launch more AIR events. Get more information at www.knowbility.org.

If you need an eye-opening accessibility experience for yourself, download IBM's HPR for free at www.nwfusion.com, DocFinder: 2142, and test it with your Web site. "Seeing" is believing in the need for accessibility for all.

Musthaler is vice president of Currid & Company, a Houston technology assessment firm. She can be reached at linda@currid.com.

Using HPR showed me that very few Web sites are designed to be read aloud.

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of PHISHING

■ BY DEBORAH RADCLIFF

Dear Citibank member,
As part of our continuing commitment to protect your account and to reduce the instance of fraud on our Web site, we are undertaking a period review of our member accounts.

You are requested to visit our site, logon to your account and fill in the required information.

Dear eBay user,
During our regular update and verification of the accounts, we couldn't verify your current information. Either your information has changed or it is incomplete.

As a result, your access to bid or buy on eBay has been restricted. To start using your eBay account fully, please update and verify your information by clicking below:

Dear AOL member,
We regret to inform you, but the credit card information for your account has expired. To enjoy your AOL experience and keep your account active, you must enter new *valid* credit card information within 24 hours of receiving this e-mail.

These e-mails are fakes, frauds, phonies. They are examples of phishing, a growing scourge that strikes at the very heart of Internet commerce by undermining the trust between e-commerce sites and their customers.

"What's at stake is all of e-commerce and our online way of life," says Fred Felman, vice president of marketing with Zone Labs.

DK Matai, executive chairman of mi2g, an electronic banking and security vendor in the U.K., puts it this way: "Brand protection is the key issue in the 21st century because it's the flip side of identity theft. Even if phishing's not their fault, online brands should be powerful and calculating enough to prevent consumers from making mistakes that cost them their identities."

In this phish, if you click on the link in the scam e-mail, you are taken to a real Citibank site; it's the pop-up box that's fake. If you enter your information, it goes to the phisher.

Welcome to Citibank
Apply today for a Home Equity Line of Credit.

Dear Valued Customer,

Our new security system will help you to avoid frequently fraud transactions and to keep your investments in safety.

Due to technical update we recommend you to reactivate your account.

Click on the link below to login and begin using your updated Citibank account.

To log into your account, please visit the online banking <http://web.ds-us.citibank.com/DVP/cgi-bin/citibank/scripts/>

If you have questions about your online statement, please send us a Bank Mail or call us at 1-800-374-9700

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REAL

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Password

ATM PIN (type "n/a" if none)

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Account protection tips | Secure sign

REAL

Online merchants such as eBay offer free toolbars that will confirm that you are on the real eBay site and warn you when you are going to a phish site.

David Remick, manager of enterprise information security for EarthLink, adds, "Phishers are a serious problem to our consumers. EarthLink has been committed to fighting phishers since we started picking up on the activity against our brand three years ago." EarthLink currently is offering a free scam-blocking toolbar that alerts consumers when they are about to visit a site that's on EarthLink's list known scammers.

Clearly, phishing has become more sophisticated and more prolific. "We got a phish last week with the eBay brand, and it took us 25 minutes to be sure it was actually a spoof. If we can't tell the good from the bad, then how can the consumer?" asks Cayce Ullman, CTO of secure messaging company PostX.

The number of phishes is skyrocketing. In April, the Anti-Phishing Working Group (AWG) detected 1,125 unique new phishes. That's a 180% increase over March, when 402 new phishes were reported.

Phishing is starting to take its toll. Consumer confidence in e-mail is at an all-time low, according to Pew Internet Life. In its March survey of

1,371 Internet users, 63% said they are less trusting of e-mail. Last June, that number was 52%.

In a recent online survey of 650 U.S. respondents, 75% said they are less likely to respond to e-mails from their bank because of phishing. Online market researcher Infosur conducted the survey on behalf of anti-fraud vendor Cyota.

Experts say that unless businesses can stop the fraudulent use of their brands, they could lose their online channels altogether.

Step 1: Educate

Ask any big online brand what they're doing

about the problem and they'll point to user education.

Citibank, one of the earliest brands phishers exploited, has a prominent link at the bottom of its home page about e-mail fraud. The link takes you to all known e-mail phishes forging the Citi brand name, and tells readers how to identify and report fraudulent e-mails.

But education isn't enough, analysts say. For starters, some customers are learning not to trust anything, so they're deleting your legitimate communications without reading them, says Brian Murray, vice-president of client services of Cyveillance, an online brand protection service provider.

Step 2: Authenticate

Beyond education, online brands need a way to authenticate legitimate e-mail in a simple, easy-to-follow way, says Pete Lindstrom, research director at Spire Security.

"The missing piece is how does a bank or online business validate their authenticity without being complicated for the consumer?" says Phillip Hallam-Baker, principal scientist at VeriSign.

One way, he says, would be an extension to Secure Multi-purpose Internet Mail Extensions (S/MIME) that would show users a corporate logo instead of a digital signature chain to prove the mail's been signed by a valid certificate authority.

"We've issued a logo in our own certificates. And the technology and standards exist," he explains.

Tumbleweed Communications, a secure Internet messaging company, announced in March that it has a market-ready S/MIME solution that does just that. Its e-mail authentication engine applies in-bound and out-bound digital signatures at the gateway. The customer sees a red ribbon on the left side of the mail that, when clicked, says the message is signed and by whom. If a phisher tries to spoof a digital signature, the recipient will get a warning message.

"Outlook, Notes or Novell Groupwise are already configured to read our S/MIME certificates, so consumers wouldn't have to install any new software," says Dave Jevans, marketing vice president for Tumbleweed and chair of the AWG. "All businesses need to do is put this gateway between their mail sending servers and the Internet, import cer-

User protection

Just as important as educating your consumers about phishing is giving them some tools to protect themselves, says David Remick, manager of enterprise information security for EarthLink. AOL, EarthLink and others offer links to a variety of protection tools that will go a long way in stopping phishes from making it to the desktop. These include:

Pop-up blockers, which protect against a new form of phish that sends users to a pop-up directly in front of a legitimate site. When they type in their credentials, the dialog box closes, sends an error message and delivers the browser to the legitimate site.

Anti-spam tools, which would block at least some of the spam-based phishes coming at them.



The green color indicates you are on a PayPal or eBay site.

Anti-spyware tools, which help protect consumers from spyware embedded URL-redirects to phishing sites. Anti-virus tools that protect against virus-born phishes. While EarthLink offers its own pop-up and spam-blocking tools, AOL links to other vendor products, including:

- Pop-up Stopper Download — www.STOPzilla.com
- Free Pop-up Blocker — www.Stop-Sign.com
- Free Anti Spam tool — www.spamfighter.com
- Spam — www.spambutcher.com
- Fight Spam on the Internet — <http://spam.abuse.net>
- WWW.SPAM.COM — www.spam.com
- SpamCop — <http://spamcop.net>
- Welcome to CAUCE — www.cauce.org
- Spam Laws — www.spamlaws.com
- SpamAssassin — www.spamassassin.org
- A Plan for Spam — www.paulgraham.com/spam.html
- Anti-Spam — www.hostedscripts.com/scripts/antispam.html
- MailWasher — www.mailwasher.net
- UXN Spam Combat — <http://combat.uxn.com>

What is Phishing?

Phishing attacks use spoofed e-mails and fraudulent websites designed to trick consumers into divulging sensitive personal data such as credit card numbers, account usernames, passwords and Social Security numbers. By impersonating legitimate brands or well-known banks, other retailers and e-mail and companies, phishers can trick users into responding to them.

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tificates and the server signs outbound mails in accordance with policy."

Longer-term global authentication projects include the Sender Policy Framework, Yahoo DomainKeys proposal and Microsoft's CallerID. But these approaches take time and 100% buy-in from the online community, says Scott Olechowski, vice president of product strategy and development at PostX, a secure e-mail company.

CallerID would require all e-mail servers to perform forward DNS lookups to confirm the domain that claims to have sent the message. It also would require DNS servers to have an extra set of entries for every host name that can appear after the @ symbol in the e-mail, or at least one new entry that encompasses all host names.

At the RSA Security conference in February, PostX announced a similar concept to Tumbleweed's in which a simple pop-up panel under the URL box with green-, red- and yellow-light indicators tell consumers if the e-mail is bad, good or questionable. (In non-browser-based e-mail such as Eudora or Outlook, an icon button in the main screen and message screen lights up.)

But this requires consumers to load a little piece of free software that must be distributed by their online brands. Merchants aren't too keen on the yellow-light concept, says Julie Ferguson, co-chair of the 7,000-member Merchant Risk Council, a network of merchants doing business online.

"The problem with the PostX solution is the potential for false-positives," she says. "Merchants who don't sign up for the service will receive a yellow light, which would make a consumer hesitant."

Step 3: Validate

Web sites, too, need some sort of validation of their legitimacy. So CoreStreet, an identity management validation company, recently posted on its Web site a free browser helper called Spoofstick. Working on Mozilla Firefox and Internet Explorer browsers, Spoofstick validates the Web site by using the browser's internal read-only variables to display the top and second level domain name that the user is browsing.

So when a user is at a legitimate site such as <http://signin.ebay.com/aw-cgi/> ..., a prominent note just beneath the URL box will say, "You're on ebay.com." If a user is fooled into going to a spoofed site like <http://signin.ebay.com@10.19.32.4>, the note will say, "You're on 10.19.32.4."

This requires users to know where to go to download the browser helper. If something like this becomes ubiquitous, phishers likely will try to create a similar pop-up message of their own, says Phil Libin, president of CoreStreet. But, because the message style and font are user-specified, it'd be nearly impossible to make a spoofed validation message look the same.

Besides, he adds, "Users need to know information provided by Spoofstick much more than they need to know the full URL. So we think it should be included in all browsers by default."

E-commerce companies are tackling the problem by telling their consumers when they're at spoof sites. For example, eBay has added a new service to its toolbar called Account Guard (http://pages.ebay.com/ebay_toolbar/), which alerts users when they're at legitimate eBay and PayPal sites and spoofed eBay and PayPal sites. It does this by looking through its own

domains and a database of spoofs the community has reported. Then, eBay goes one step further and warns users when they are entering their eBay password into an unverified site.

"With the tremendous volume of spoof reports, eBay Toolbar leverages the vigilance of our community to enable users to protect themselves," says Amanda Pires, an eBay spokeswoman.

Step 4: Block

Some ISPs are blocking users from going to bad Web sites altogether. For example, when AOL customers report spam, the links inside the spam are added to a list of blocked sites. When users click those links, they get an error page. But this technique also blocks legitimate links to offers from real businesses.

So EarthLink limits blocking only to phish sites claiming to be part of the EarthLink domain. Like eBay, EarthLink has an easy fraud-reporting mechanism on its "contact us" page, which it uses to feed the database of phish sites.

"We use a system known as IP null routing to block Web sites linked from spam pretending to be from EarthLink," EarthLink's Remick says. "If a customer clicks that link, it will not resolve."

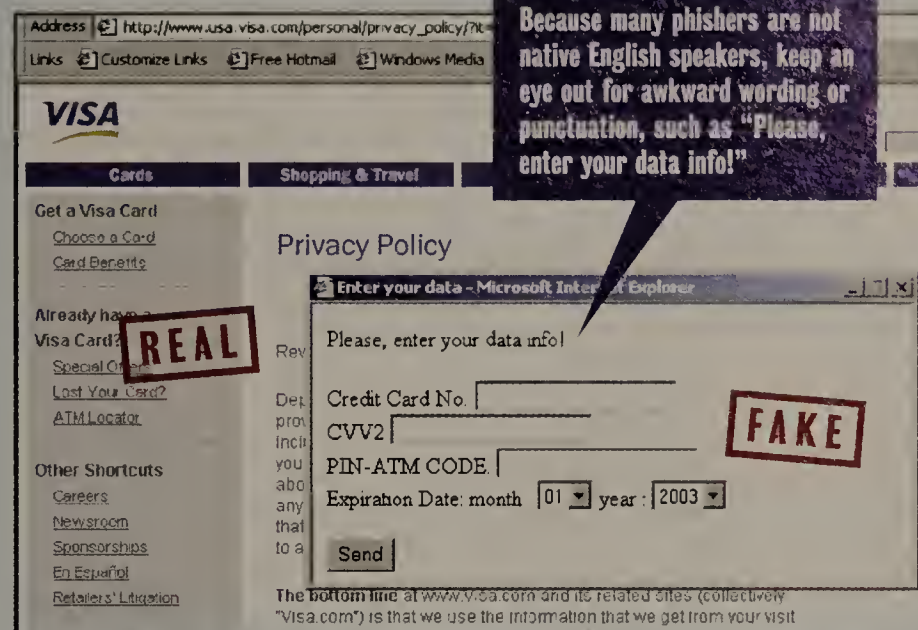
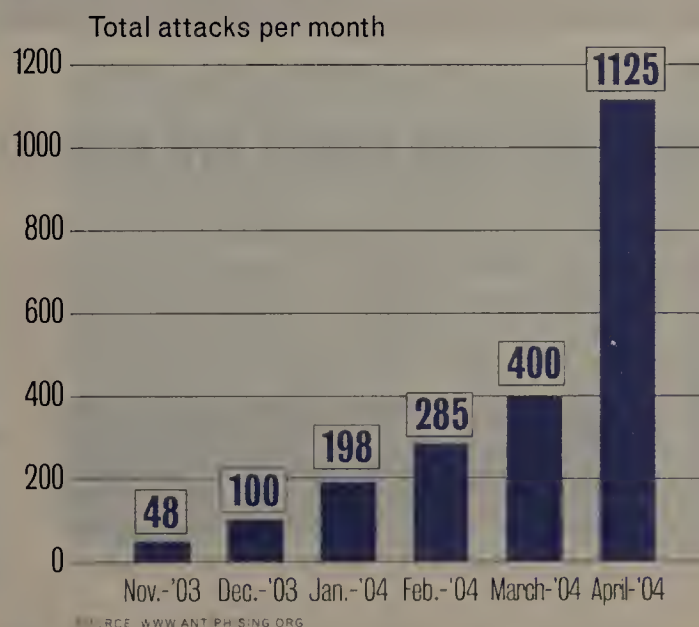
Step 5: Monitor

EarthLink also uses an outside service to alert the company when someone registers for a copycat brand. "Then we run through certain procedures to make sure that the Web site does not attempt to pose as a phisher site for EarthLink," Remick says.

Monitoring for brand misuse is the most effective method of protecting your brand from phishing, according to Ferguson of the Merchant Risk Council.

"Companies like Cyveillance now monitor the Web on behalf of large retailers looking for these types of scams. So the phishing sites and e-mail schemes are detected and shut down nearly within hours instead of days," she says. "That means there are fewer victims."

Phishing attacks skyrocket November 2003 – April 2004



Cyveillance charges \$1,000 per month and up to protect corporate brands from brand theft, trademark infringement, partner compliance and other brand-damaging problems.

For starters, it checks domain registries on behalf of its clients. If it sees a copycat Web site being registered, it notifies the client and works to prevent that site from being used as a phish site. Moreover, it uses a Web crawling technology that takes 21 days to cycle through the entire Internet to capture uses of its clients' brand names. The company also monitors spam through its own trapping filters and through relationships with third-party spam filtering companies.

When phishes are discovered, Cyveillance works closely with ISPs to get them shut down, Murray says. And, when possible, Cyveillance also works with law enforcement.

Step 6: Plan

Murray suggests that all online businesses have a checklist of who to call when their brand has been compromised.

"Most local FBI offices have Internet crime centers. And the Secret Service is opening more Electronic Crime Task Force offices all over the country," says Tom Grasso, a special agent at the FBI's National Cyber Forensics and Training Alliance in Pittsburgh.

Already, some cases are going to court. In March, Zachary Hill pleaded guilty to bilking 400 AOL and PayPal users out of \$75,000 through phishing. He's awaiting sentencing in May. And, in January, Helen Carr of Akron, Ohio, was sentenced to four years in prison for phishing, while her partner in crime, George Patterson of Jeannette, Pa., was sentenced to three years last summer.

"Hopefully," Grasso says, "putting more phishers in jail will act as a deterrent."

Radcliff is a freelancer writer in California. She can be reached at deb@radcliff.com.



More online!

- Read details on convicted phisher Helen Carr's case.
- Find eight tips on avoiding phishing.

DocFinder: 2227



CLEAR CHOICE

TEST

QLogic's SANbox
5200

Storage switch shows off easy install, strong management

■ BY RANDALL BIRDSALL, NETWORK WORLD LAB ALLIANCE

QLogic's new stackable storage-area network switch — the SANbox 5200 — that features 10G bit/sec interconnections begs the question of how well this architecture can stand up against a chassis full of Fibre Channel port modules.

In our tests, the SANbox 5200 offered effortless installation, very efficient management and interesting features, but only middle-of-the-road performance.

QLogic markets its SANbox 5200 under a "simplicity" tagline, a term that is fitting, given its quick-start guide and configuration wizard. The guide was easy to follow and well organized. The detail provided in the configuration wizard makes the installation process easier by giving users the necessary technical background in clear, bite-size chunks.

Once the SANbox 5200 was installed and configured, we had to connect the test gear, a process that could use some improvement. The switch's port labels make it difficult to find specific ports. The switch supports beaconing — a diagnostic mechanism for locating a specific port in the SAN fabric — but only on a per-switch basis.

In the real world, our test gear would be replaced with host bus adapters and connections to other switches. This can pose a challenge to any Fibre Channel SAN switch because of interoperability issues that plague the SAN industry. QLogic offers an effective interoperation guide

on its Web site.

After we configured the switch domain ID — a unique number that identifies the switch to the fabric — the switch required a reset for the changes to take effect. That's not normally a problem, but SANbox Manager didn't forewarn us, and went ahead and reset itself. All traffic on that switch unexpectedly stopped.

QLogic's bundled management capabilities are impressive. The overarching management application is called the SANbox Manager. Its diagnostic tool belt is especially well outfitted with features such as Fabric View — a real-time monitoring application that graphs throughput and errors on a per-port basis — and a searchable, filterable, sortable event manager. However, some of the events these tools reported could offer more detailed information.

The SANbox Manager's centralized management capability is a nice plus for monitoring a stackable switch, but the administrator still must configure the majority of settings one switch at a time. This could tie up an administrator when configuring or reconfiguring a large deployment.

When configuring Fabric View options, the administrator has a dynamically constructed view of the fabric topology, including all switches and their inter-switch links.

The drill-down, single-switch view offers a graphical representation of the switch with individual port status. An extensive array of counters display real-time statistics on Fibre Channel control traffic and errors, and current port configuration. This feature was useful while tracking performance issues.

Most notable among the SANbox 5200's architectural features is support on each stackable unit for four 10G Fibre Channel ports. This feature enables effective stacking, thus eliminating the need to steal from the 16 2G bit/sec ports for inter-switch links (ISL) and thus reducing the overall number of switches you need.

SANbox 5200 had another noteworthy feature called I/O StreamGuard. When a



The SANbox 5200's effortless installation and efficient management help offset middle-of-the road performance.

device logs onto a SAN fabric, it generates a notification of a fabric change that must be propagated to and processed by other devices, causing a small interruption to the fabric. This notification is critical when the state of a storage device changes, but it is unnecessary for hosts and servers accessing storage. I/O StreamGuard suppresses such host notifications, staving off this expected drop in throughput.

Also noteworthy is QLogic's pay-as-you-go licensing approach for the SANbox 5200. Users can license the use of four ports at a time, allowing for more detailed scalability.

On a single-switch unit, we measured line-rate throughput, and latency results registering less than 10 microsec, when sending bidirectional traffic between port pairs (see How we did it at www.nwfusion.com, DocFinder: 2228). Under the more grueling mesh tests, however, where data from each port is sent in a round-robin fashion to all other ports, there was a performance drop-off. The worst-case test — where we tested a full-mesh configuration and pushed small frame size (60 bytes) — resulted in a 4% drop in throughput per port. But despite that, the distribution of throughput was even across all ports in every test, including the congested tests.

When a SANbox 5200 configuration grows beyond one switch unit, the 10G bit/sec ISLs are introduced into the fabric. We verified that one 10G bit/sec ISL could hit a maximum throughput of 1,255M byte/sec — just a smidgen less than six 2G bit/sec ports — while adding no more than 9 microsec of latency. The fairness of

throughput distribution, and line-rate throughput between port pairs, is maintained when the same traffic streams are sent across ISLs. Also, the SANbox 5200 recovers well from an ISL failure, which requires that there were multiple paths between switch units. We clocked the fail-over time at 59 millisecc.

QLogic recommends growing the switch fabric up to four stackable switch units — a total of 64 user ports. It also recommends one ISL hop from one switch to every other switch and multiple paths to all switches. This practice yields the best possible performance when redundancy between all switches is required. But it also creates an oversubscribed fabric — a point QLogic freely concedes.

We pushed the fabric to the edge with a full-mesh test and saw a 7% drop in theoretical maximum throughput for large frames and a 14% drop for small frames.

We verified the SANbox 5200 could perform a code load and activation while under load — a true differentiator for a switch in this market. We tested the switch's ability to recover from a power failure and noted no residual problems once the switch returned to an operational state after 2 minutes, 32 seconds.

Overall, there is room for performance improvement but its simplicity and innovative features earn QLogic's SANbox 5200 a very solid standing.

Birdsall is a senior test engineer for Miercom, a network consultancy and product test center in Cranbury, N.J. He can be reached at rbirdsall@miercom.com.

Net Results

QLogic SANbox 5200

OVERALL RATING
3.9

Company: QLogic, (800) 662-4471, www.qlogic.com **Cost:** \$736 per port, based on four stacked switch units, each yielding 16 2G bit/sec ports, four 10G bit/sec ports and six 10G bit/sec copper XPAK connectors. **Pros:** Easy installation; strong management; innovative features. **Con:** Data flow congestion can occur with more than two stackable switch units.

The breakdown

Management 35%	4
Features 25%	4
Performance 25%	3
Installation 15%	5
TOTAL SCORE	3.9

Scoring Key: 5: Exceptional; 4: Very good; 3: Average; 2: Below average; 1: Consistently subpar

NW Lab Alliance

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Management

Strategies

■ CAREER DEVELOPMENT
■ PROJECT MANAGEMENT
■ BUSINESS JUSTIFICATION

Survival of the fittest

IT experts offer 10 tips for keeping your job secure in the face of outsourcing and offshoring threats.

■ BY DENI CONNOR

"We're conducting a layoff. We're outsourcing IT. We're offshoring." Those are words that no IT manager wants to hear. While some events are beyond your control, IT managers who have weathered these business changes offer some advice about what you can do to boost your job security.

1. Tell the truth. "Be honest in dealing with managers, peers and subordinates," says Charles Lewis, professional engineer for electrical power company JEA in Jacksonville, Fla. "Keep your commitments, and if you can't, be sure co-workers know that something interfered and tell them why."

2. Align IT with the business.

"Ensure your department's goals are directly in line with business objectives," says Mark Moroses, senior director of technical services and security officer at Maimonides Medical Center in New York. "We do this through several organizational steering committees that meet monthly and quarterly. These committees directly prioritize MIS projects and approve MIS budget submissions."

3. Determine ROI. Plan how your money is spent. "Include ROI analysis on anything above a small project as part of the project," Moroses says. "If you're not keeping score of your work, you're not really measuring your value to the organization and also not learning from your mistakes." What's more, performing ROI calculations gives you data to demonstrate the successes of your IT staff.

4. Keep on top of technology. Ron Hills, systems consultant and desktop engineer for PMI Mortgage Insurance in Walnut Creek, Calif., says one of the most important aspects of keeping your job is continuing education.

"I learn as much about my job as I can," Hills says. "This includes continuing education courses, certification and seminars to stay in tune with current technology." He reads the industry news for awareness of relevant technology issues to discuss with his employer.

5. Don't say no outright. "We very rarely say no to any request," Moroses says. "We do, quite often, however, have to compromise with how we solve a problem."

Moroses normally will start a dialogue with his customer in which IT will explain the possible implications of a technology change.

"A particular solution may meet a smaller need but create a bigger global risk," he says. "We have an alternative plan that will provide 95% of their needs with no security impli-

cations. By engaging our clients in this manner and making them part of the solution decision, they do not become disenfranchised, and feel like a partner instead of a frustrated supplicant."

6. Be flexible. "Become more of a versatilist," says Joe Santana, director of training and organizational development Siemens Business Services in New York and author of *Manage IT*, a guide for IT managers. "In organizations in the past, specialists were highly prized. If you can be segmented into a person that just does one thing, that does make you a candidate for offshoring or outsourcing."

Santana recommends developing additional skills such as requirement analysis, process design or vendor management.

7. Don't become indispensable. "Avoid making yourself 'indispensable,'" Moroses says. "Sometimes ensuring all workflows [and projects] go through one super-important person has the opposite effect."

Santana says indispensable managers have some sort of specialized information they aren't sharing with their team and can't produce the same quantity of work as a team could put out. "Eventually, this is going to come back and bite people," he says.

8. Become more client-facing. "People who deal with clients directly, whether internal people in the organization or outside the company, are valuable," Santana says. "The demand for client-facing people with technical skills is actually increasing."

9. Optimize staff talents. "In the past people became managers because of what they did technically. After they were managers, they just continued doing what they were doing before," Santana says. "Now to really drive value into the corporation, managers need to leverage their people. That means to have good management skills, assessing when their people need direction, support or coaching."

David Bratt, technology architect for H. Lee Moffitt Cancer Center in Tampa, Fla., says it is also a good practice to "create an environment where employees can succeed. Be honest and realistic when setting technological goals."

10. Develop leadership capability. "The key to success at staying in an IT position is getting leadership skills and being able to get those teams of IT people to work together to meet the organizational goals and keep them focused and aligned on what they are trying to accomplish," says Dennis Haley, CEO of Academy Leadership in King of Prussia, Pa., and author of *The Leader's Compass: Set Your Course for Leadership Success*.

"When we talk to IT departments, very few of them have any leadership training, even though they have had four to eight years of training in computers and computer science," Haley says. "A lot of times, a company will take their best IT person and make him the manager, and then they have two problems: They've lost their best IT person, and they have a bad manager." ■

What to watch for

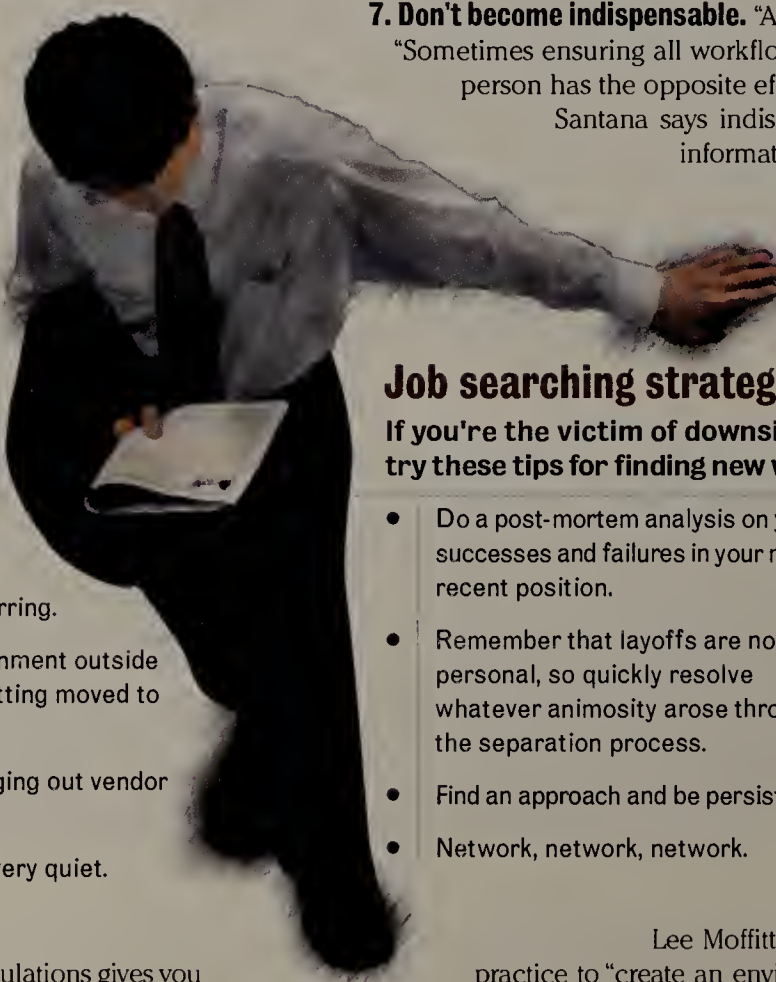
These events might indicate that layoffs, outsourcing or offshoring are imminent in your IT department:

- The rumor mill is relatively accurate.
- Budget cuts are occurring.
- You're given an assignment outside your area, such as getting moved to the help desk.
- The company is stringing out vendor payments.
- Things suddenly get very quiet.

Job searching strategies

If you're the victim of downsizing, try these tips for finding new work:

- Do a post-mortem analysis on your successes and failures in your most recent position.
- Remember that layoffs are not personal, so quickly resolve whatever animosity arose through the separation process.
- Find an approach and be persistent.
- Network, network, network.



Get more online!

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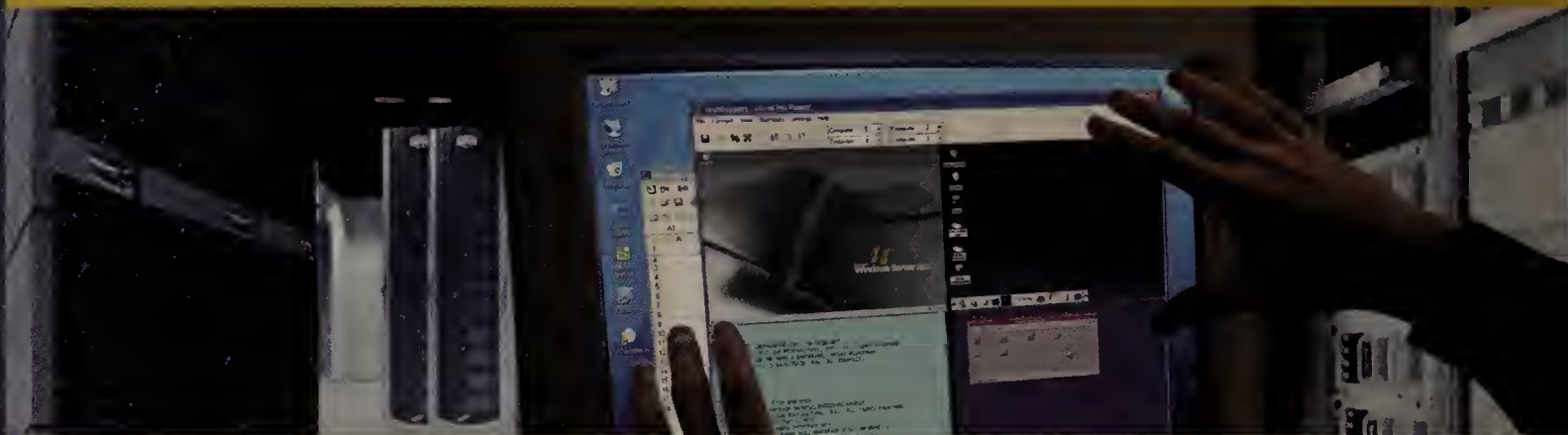
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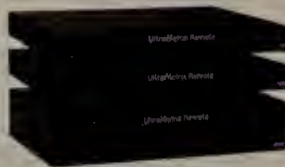
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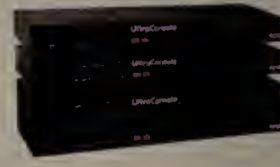


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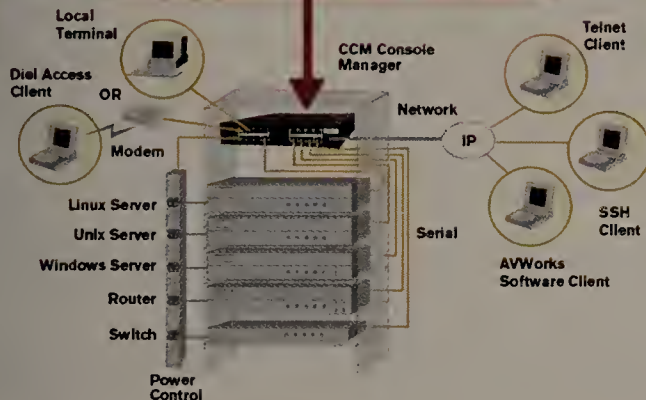
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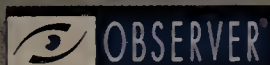
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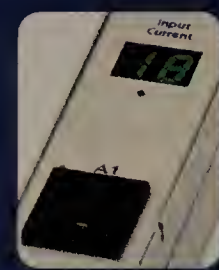
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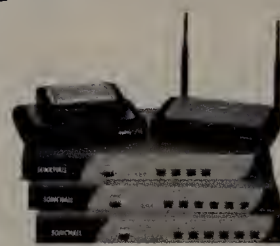
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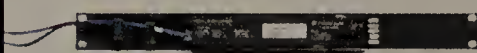
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Embedded Software Engineer II: As member of the Platform and Protocol SW team, ESE is responsible for gathering requirements, developing specifications, design, implementation, unit testing, integration, and maintenance of embedded software on a Motorola based platform. Daily duties include: writing functional specifications; decomposing functional specifications into component requirements; estimating time-to-complete based on the requirements and preliminary design information; designing components that fit in the current architecture; and maintenance of existing Platform and Protocol firmware to support existing and future software releases. Daily work with the TRxStream and NetAccess series product line, which consists of PCI and cPCI voice, IP telephony, fax, telephony hardware, embedded software, device drivers, APIs, and various signaling and data protocols such as SS7 and ISDN. Min. Reqs.: BS/BA (foreign equivalent accepted) in CS, IT, EE, or related field of study plus 2 yrs exp. in job offered or 2 yrs exp. in a related occupation designing, developing and maintaining embedded platform and protocol software development for telecommunication products. PLUS, must have demonstrated experience and working knowledge of the following: (1) programming skills using C/C++; (2) Real-time embedded software development for Motorola processor based telecom products; (3) SW maintenance and customer support for telecom products; and (4) PSTN telephony technologies and protocols. Basic pay range is \$55,000 to \$70,000 per year FT and standard company benefits. EEO. Submit 2 resumes and respond to Job Order No. #2004-668, PO Box 989, Concord, NH 03302-0989.

COMPUTER PROFESSIONALS: Radiant Systems, Inc. a Nationwide Technology provider located in NJ, CT, TX & FL req Professionals w/ Hardware &/or Software skills Incl: C, C++, Java, JavaScript, XML, UML, Perl, HTML, SQL, Pro*C, VB, PB, VC++, MFC, SDK, Gupta-SQL, Informix, Crystal Reports, Sybase, Dev 2000, Lotus Notes, Unix, Win NT/95/XP, RTOS, Sun OS, Help Desk/PC-Support, SAP, R/2-R/3, ABAP/4, SAP Scripts, PeopleSoft, IDMS, AS/400, COBOL/CICS/DB2, MVS, RPG/400, SQA, Win/Load Runner, SNMP, COBRA, ASP, Active-X, DTM/TDMA, FDMA, Routers, DSP/ATM, FRAME RELAY, TCP/IP, ISDN, DCOM, COM, PL/1, SAS, Vx-Works, VHDL, SONET/SDH, SNMP, HP OpenView, Proj Mgr, Tech Writers. Candidates w/a BS (or equiv) & 2yrs exp. as P/A and/or MS (or equiv) & 1yr exp. as S/E. Travel & reloc., req. to anywhere in USA as assigned. Excel. Benefits. E-Mail: radiant@radiants.com Attn: H.R. Dept. 109-A Corporate Blvd., S. Plainfield, NJ 07080.

Sr. Internal Auditor. Seeking qualified applicants for the positions of Senior Internal Auditor. Position requires a B.S. in C.S or Computer Engineering, plus 4 years experience in position, systems analysis, programming or technical systems auditing. Please forward resume to: BellSouth Corporation, Attn: Susan Rodgers, 1155 Peachtree Street N.E., Suite 8F07, Atlanta, GA 30309. EOE

IT PROFESSIONALS

Consultant

(Glen Mills, Pennsylvania and other locations through the U.S.) Responsible for leading a small team of developers and technical architects on large Internet-based application engagements while working with design and requirement specifications to develop the desired functionality using web-based technology tools such as Java, Java 2 Enterprise Edition (J2EE), Java Servlets, JSP and JDBC focusing on user-interface (screens, navigation, etc.) component of the system. Involved in development and testing of middleware architecture utilizing IBM WebSphere and CORBA. Participate in planning and scoping activities and development of multiple application development technologies integration and implementation strategies using various tools and languages. Design, build, assemble and test capabilities for software that may be integrated with another business package or application. Coordinate integration of client/server system with existing mainframe applications with knowledge of Java development on mainframe and transaction coordinators such as CICS (Customer Information Control System). Construct detailed system design using data and object models. Define technical architecture for proposed solutions and involved in the overall design of the system. Responsible for ensuring that system is stable and functioning efficiently; diagnosing problems or issues as they arise; ensuring that any issues or problems are resolved in a timely manner.

The wage offered is \$75,780 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree in Computer Science, Engineering (any type), Math, Information Systems or Business Administration/Business + 2 years of experience in the job offered or 2 years of experience as a Systems Analyst or Technology Intern. Related experience must include at least one year of experience in the development and testing of middleware architecture such as IBM WebSphere and CORBA. Position also requires at least one year of experience with system integration and key Java 2 and J2EE elements including Java Servlets, JSP, JDBC, Java development on mainframe and transaction coordinators such as CICS (Customer Information Control System).

Please send your resume, referencing Job Order Number WEB 420986 to the: PA CareerLink, FLC Unit, 235 West Chelten Avenue, Philadelphia, PA. 19144. EOE.

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Consulting:
Strategy & Operations

Deloitte Consulting LLP invites you to explore a dynamic career in Glen Mills, PA and throughout the United States. A consulting position of a Strategy & Operations Manager is available with experience managing consulting projects from conception to final delivery for multinational companies in the Communications Industry, specifically in the areas of Corporate Strategy and Operations Excellence. Use cross-functional skills (Strategy, Information Technology, Operations, Finance and Marketing) and industry specific experience to quickly penetrate clients to understand their current and future needs. Perform business review and evaluation including research of industry trends and financial analysis; map processes and identify improvement opportunities for quick implementation; conduct interviews and facilitate visioning exercises with executives; write comprehensive reports for clients' senior management; develop short and long-term strategies for clients. Perform the role of moderator between technology and business teams. Supervise and manage associates and provide directions and feedback regarding their performance. Manage quality of deliverables and financial performance of projects and coordinate collection activities. Participate in business development activities for industry target clients.

Master's degree or equivalent in Computer Science, Math, Engineering (any), Information Systems or Business Administration and at least 5 years of experience in the job offered or 5 years of experience as a Manager (any), Senior Consultant, Finance Associate or Related is required. At least three years of related experience working with senior management in multinational companies in the Communications Industry with cross-functional experience in Strategy, Information Technology, Operations, Finance and Marketing must include performing business evaluations (financial analysis and industry research), identifying and implementing process improvement opportunities, writing strategy reports, development of short and long-term strategic plans, supervision of staff, client collection activities and developing new business opportunities.

Travel is required 80% of the time at a minimum. Must also be willing to relocate to client sites.

Interested? Please submit your resume by email to eazzaro@deloitte.com.

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IT PROFESSIONALS

Consultant

(Glen Mills, Pennsylvania and other locations through the U.S.). Involved in all phases of System Development Life Cycle (SDLC) using IBM Mainframe technologies in general and COBOL, CICS (Customer Information Control System), VSAM (Virtual Storage Access Method) and DB2 in specific. Conduct user requirements and design, develop and implement online and batch programs with various levels of complexity. Involved in all phases of SDLC using JAVA and Power Builder providing the conceptual strategy to implement JAVA / Power Builder user views with COBOL business modules. Design and develop Use Cases to execute the testing of JAVA modules. Member of the Joint Application Development (JAD) sessions with the development teams to gather requirements and to develop conceptual design of user screens utilizing CICS/JAVA/Power Builder. Involved in the design, development and fine tuning of COBOL/PL1 programs with significant DB2 SQL access. Utilizes platinum utilities for DB2 to tweak the performance of DB2 SQL. Administration and Management of application specific DB2 tables. Develops Ad-hoc reports and feed files for the external and internal agencies using DB2, Complex SQL and TERADATA. Automates processes for quicker turnaround of application development and develops tools to execute the stream of jobs using REXX to automate the testing activities. Designs, develops and implements JCL (Job Control Language) jobs to execute batch programs.

WAGE: \$74,752/year
Hours worked: Monday-Friday 9:00am-5:00pm

MINIMUM REQUIREMENTS: Bachelor's degree in Engineering (any type), Math, Business Administration or Information Systems + 3 years exp. in the job offered or 3 years exp. as a Senior Consultant, Consultant, Analyst or Module Leader. Related experience must also include at least 2 years of: VS COBOL II, CICS (Customer Information Control System), VSAM, DB2/SOL, PL1, JAVA, Power Builder, TERADATA, REXX, JCL (Job Control Language), and Platinum utilities for DB2.

Please send your resume, referencing Job Order Number **WEB 420835** to the: Philadelphia NW Careerlink, FLC Unit, 235 W. Cheltenham Ave., Philadelphia, PA 19144. EOE.

Infomercia is looking for system/programmer analysts, software/project engineers & computer consultants to develop applications using Oracle, SQL, DB2, C/C++, VB, SAP, Java, Infomix etc. Candidates must have BS/MS with IT exp. Send resumes to info@infomerciainc.com EOE.

Cigniti has openings for System Analysts or Software Engineers. Candidates must have BS/MS with experience. Use skills such as Java, Cobol, EJB, ERP, Oracle, SQL, VB, C/C++. Travel may be required for some jobs. Competitive salary. Please apply at info@cigniti.com. No calls. EOE.

Sr. Technical Lead Architect. Lead team of 3 or more; create data models; meet with business unit; perform high end development in a Data Warehouse, C# Architecture and Web Services environment; Requirements: B.S. degree in Electrical Engineering, Computer Science or a related field PLUS 2 yrs. exp. in job or 2 yrs. as Programmer/Analyst or Developer in Data Warehousing, Technical Architecture, and C # architecture. Send CV to Elite Computer Consultants Attn. Rod Holtkamp, Address 10333 N.W. Frwy, Suite 414 Houston, TX 77092 Fax: 713-686-9454.

Senior Architect (Advisory Systems Engineer): Serve as team leader in the design and implementation of large-scale business systems based on J2EE architecture; responsible for network and distributed programming as well as defining the technical architecture of information services facing external customers and leveraging existing telecom vertical services; provide senior management with system design recommendations to alternatives in conformance with corporate architectural guidelines and coordinating the implementation of designs within projected time frames; recommend techniques and methodologies to systems personnel that will result in improved productivity and product quality. Requires Masters degree in Comp Science or Math plus 2 years exp in the job offered or 2 years exp in the design and implementation of large-scale business systems based on J2EE architecture, and network and distributed programming. Salary \$103,000/yr, 40 hrs/wk, 8AM-5PM, Monday-Friday. To apply, submit two (2) copies of resume to: Case # 200204084, Division of Career Services, Labor Certification Unit, 19 Staniford St, 1st Fl., Boston, MA 02114.

Software Engineer/
Technology Analyst

Min. BS in Computer Science, Physics, Math or related field. - 5 yrs exp. req., must include 3 yrs of exp. in business process management, project management, process re-engineering. Six Sigma project exp required. - Knowledge of multiple technologies including: UML design, J2EE, .NET, XML/XSL, SOAP, JavaScript, Java, VB, VB.NET, C/C++, C#, Perl, TCL, CORBA, COM/DCOM, PL/SQL, Oracle/SQL Server. - Proficient in interactive TV technologies including: OpenTV SDK, Seachange VOD management systems, DSM-CC protocol. Mail only: Steve Winter, Ergos, 1717 St. James Place, Suite 320, Houston, TX 77056.

Executive Director - OEM Servers and Appliances (with Masters degree and 3 years experience or Bachelors degree and 8 years of experience) - Job entails and requires experience in product management, sales and marketing management of rack-mount servers; designing and developing a business plan and formulating new marketing strategies; designing and developing complete line of rackmount internet servers and appliance products; creating engineering designs using AutoCad and designing programs using C and C++; developing and maintaining vendor relationships; developing relationships with open source community (Linux and FreeBSD). Relocation within USA Possible. Attractive compensation package. Send resume to Norma Huntington, NCS Technologies, Inc., 9490 Innovation Drive, Manassas, VA 20110.

System Administrators to install, maintain, administer Windows, Linux, Solaris OS; install, maintain Web/Mailing Servers; plan, maintain, troubleshoot LAN/WAN; maintain backups & provide hardware/software support for users; create, update user accounts; evaluate new/existing systems, recommend future IT strategies. Require: BS or foreign equiv. in CS/Engineering (any branch) and two yrs exp in job offered. MS of foreign equiv. in one of the above fields will be accepted in lieu of BS & 2 yrs exp. F/T. Travel Involved. High Salary. Resumes to: HR, Global IT Solutions USI, Inc., 600 Stevens Port Drive, Ste 125, Dakota Dunes, SD 57049.

GIS Consultant sought by IT company in Denver, CO to work in Denver, CO & other unanticipated job sites in the US. Design and develop in Geographic Information Systems software applications which translate, analyze and visualize spatial data. The applications are independent of computer environment, across-platform, and often incorporate relational database management systems. Analyze requirements; create designs; code, test, debug, implement and modify the applications. Create documentation. Serve as technical manager as needed. Utilize Perl, C, SQL and proprietary languages and tools in designing the GIS applications. Requires Bachelor's or foreign equivalent in Geography or Geographic Information Systems; 1 yr exp designing and developing geographic information systems software applications, using languages including C and Perl. 8am-5pm, M-F; \$81,600/year. Respond by resume to Employment Programs, PO Box 46547, Denver, CO 80202 and refer to CO5078731

Quality Assurance & IT System Engineer: Design and build installations for industrial automation products using Microsoft Studio C++, Install Shield and DemoShield. Manage Software Source Control Systems and Network Administration. Administration and maintenance of company's web server, internet domain, e-mail system and ftp site. Requires: B.S. in CS, Math or related field and five years experience in network and computer systems administration. Demonstrated knowledge of C, C++, and IBM PC's. 40hrs/wk (9:00 a.m. to 5:00 p.m.) \$92,833.00.00/yr. Send two resumes/responses to: Case Number 200204320, Labor Exchange Office, 19 Staniford Street, 1st Floor, Boston, MA 02114.

Sr. Prog Analysts to manage teams to analyze, design, develop apps in client server/3-tier architecture using C, C++, Tuxedo, Btrieve, MQ Series, Oracle, Sybase, Socket API, COBOL, etc. under Windows, Unix OS; analyze business processes to determine reqs; implement apps and perform strategic planning/operations support; provide end user training. Require BS or foreign equiv. in CS/Engg. (any branch) & 3 yrs exp. in IT. Competitive salary, F/T, travel involved. Resume to HR, Ordusion Technologies, Inc., 3883 Rogers Bridge Road, Suite 504, Duluth, GA

Paradigm Infotech is looking for programmer/system analysts, DBA, s/w engineers. Candidate must have BS/MS with experience. Good skills in C/C++, Java, Oracle, WebLogic, VB, HTML, ERP are plus. Traveling required for some jobs. Apply jobs@paradigminfotech.com. EOE. No call.

OTS (Object Technology Solutions) has multiple openings for IT professionals (software engineers, system/program analysts, DBA, etc) to design and develop applications using various skills such as VB, Oracle, Java, WebSphere, SQL, SAP. Req MS/BS with exp. Contact resumes@otsi-usa.com. EOE.

Financial Systems
Administrator

To maintain the company's networks and Internet sys., implement network security measures to protect and generate the company's financial data for analysis, design and maintain the company's English and Chinese website and update online insurance/investment data and quotes. Req. M. S. degree in Comp. Info. Sys. or closely related field, prof. in Access, SQL, client-server application and working knowledge of network info. security. 40 hrs/wk. Send resume to Corina Chou, 5389-C New P'tree Rd. Chamblee, GA 30341.

Software Engineer, Systems - research, design, develop, implement software solutions for clients using LabVIEW, C, C++, VB, SQL Server, Database connectivity, PXI modules, etc. under Windows enviro; interact with clients to write system specs and perform study, analysis and design of systems for automated test reqs; provide on-site implementation/technical support. Require: MS or foreign equiv. in CS/Engg. (any branch) & 1yr exp in IT. Competitive salary. F/T. Resume: HR, V I Engineering, Inc., 37800 Hills Tech Drive Farmington Hills, MI USA 48331.

iKuni, Inc. currently has an opportunity in Palo Alto, CA for a Software Engineer (Artificial Intelligence Engineer) position. Req's Ph.D.+ 3 yrs. of exp. applying AI techniques to real-time games.

You may send a resume to iKuni, Inc. 3400 Hillview Ave, Bldg. 5, Palo Alto, CA 94304.

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RESEARCH PROGRAMMER University of Illinois at Chicago

Administer UNIX, Windows NT and other servers used for teaching, programming; provide instructional technology consulting to faculty; help develop technology-based courses and teach computer seminars and workshops. The applicant should have a Bachelor's Degree in Computer Science or related field, and have teaching experience. The successful candidate should have two years of combined experience in Windows NT, and UNIX system administration, Webmaster experience, programming in HTML, Perl and C, and have experience in teaching, course development and in using computer and Internet technology in education. Working knowledge of Apache, IIS, Tomcat, Oracle, PL/SQL, Transact-SQL and multimedia authoring tools are a plus. Please submit resume by 6/25/04 to Mint Simagrai, Academic Computing and Communications Center, 1940 W. Taylor, Room 124 (M/C 135), Chicago, IL 60612. UIC is an Affirmative Action/Equal Opportunity Employer.

Systems Analyst

Analyze existing business procedures, problems to evaluate effectiveness. Analyze user requirement, procedures and problems to improve existing system. Review computer system capabilities, workflow, scheduling limitations. Develop full test methodology and supporting testing documentation to align with existing System Development Lifecycle methodology. Develop new system and prepare specifications to provide more applications to meet company's future needs. Prepare documentation on system developed and user's manual. Minimum requirements: Associate's degree in CS or related or equivalent plus 2 years experience. Please mail resume to:

The Ballard Group, Inc.
9450 Swan Lake Drive
Granite Bay, CA 95746

COMPUTER System Admin.: Install, config., manage HTTP, FTP, SQL, Mail & DNS Servers, & enterprise messaging syst. Develop & implement procedures for Web-related data ctr. syst., w/ applicable network protocols. Security measures for IS & networks, incl. firewalls, VPN & antivirus; monitoring & mgmt tools. Oversee database & meta-base mgmt. MS Cert. Professional. Respond to VP, Operations, Intermedia.net, Inc., 800 California St., Ste. 200, Mountain View, CA 94041.

Systems Analyst for IT

Solutions Co., in Springfield, MO. Send resume to Reynaldo Collantes @ Technocrest Systems Inc., 3125 S. Pickwick Pl., Springfield, MO 65804.

Computer Network Security Administrator. Install, config., maintain LAN, WAN, Internet. Plan, coord., implement network & internal data security, firewalls, VPNs. Apply EDI protocols for B2B. Back-up & disaster recovery; automate IS process. B.S. + 2 yrs. exper. Send resume to MIS Mgr., Meiko America, Inc., 2160 E. Dominguez St., Long Beach, CA 90810.

Systems Admins to plan, design, install, maintain and administer LAN/WAN networks; install, configure and administer Windows NT Servers, IIS Servers, SQL Servers; maintain backups and provide hardware/software support for users; create and maintain user accounts; manage communication systems including Mail servers; evaluate new and existing systems and recommend future IT strategies. Require: BS of foreign equiv. in CS/Engg. (any branch) /Buss. with 2 yrs exp. in Sys Admin./Sys. Mgmt. F/T. Travel Involved. High Salary. Resumes to: HR, Fourth Technologies, Inc., 585 Tollgate Road, Ste 1, Elgin, IL 60123.

Sr. Prog. Analysts to analyze, design, develop client server/n-tier apps using C, C++, Java, Perl, HTML, SQL Server, XML, ASP, JSP, Servlets, EJB, Weblogic, Java Scripts, etc. under Windows, Unix os; tune apps for better performance; interact with clients and end users for reqs gathering, analysis, planning and implementation; perform debugging and modifications of existing software. Require: Ms or foreign equiv. in CS/Engg. (any branch). F/T. competitive salary. Travel involved. Resumes to: HR, Semafor Technologies, Inc., 3300, Holcomb Bridge Road, Ste 212, Norcross, GA 30092.

Programmer Analysts to analyze, design s/w apps using SAP R/3, ABAP/4, C, C++, Java, VB, JSP, JScript, HTML on UNIX/Windows os; gather/document reqs from user community; test/troubleshoot project appl code according to system objectives. Require a B.S. or foreign equiv in CS/Engg (any branch) with 2 yrs exp in IT. High salary. F/T. Travel involved. Resume to HR, Smartsoft International, Inc., 3965, Johns Creek Court, Suwanee, GA 30024.

Seeking qualified applicants for the following positions in Collierville, TN: **Senior Programmer Analyst.** Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree or equivalent* in computer science, MIS, engineering or related field plus 5 years of experience in systems/applications development. Experience with Oracle and UNIX Scripting also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Prashant Tayade, FedEx Corporate Services, 30 FedEx Parkway, HKA/TN, Collierville, TN 38017-9623. EOE M/F/D/V.

SBI is looking for the following positions for its offices in Houston, TX, San Francisco, CA, Warren, NJ, Salt Lake City, UT and Portland, OR: Art Director, Web Designer, Programmer Analysts, Technical Architects, Technical Consultants, Business Strategists, Systems Analysts, Software Engineers, Software Developers, SAP Consultant, resumes by email or fax only to HR, SBI 2825 East Cottonwood Parkway, Suite 480, Salt Lake City, UT 84121: careers@sbiandcompany.com; Fax (801) 733-3201.

Sr. Design Engineer - Build platform h/w & system architecture in GSM/GPRS smartphone. Multimedia h/w platform design & integration, GSM audio signal processing & testing & routing DSP audio firmware, modem & application h/w test cases development & debugging. Design & integration & test color LCD & digital camera & audio codec in smartphone. Masters deg in Comp Sci, Physics or Elec Engrg reqd + 1 yr exp in job offered. Send resume to Panasonic Mobile, 1225 Northbrook Pkwy, Suwanee, GA 30024, Attn: D. Greer, CA

Engineer SOFTWARE ENGINEER VI - WEB TECHNOLOGY - (Waltham, MA) Lead the research, design & development of computer software systems solutions. Provide technical expertise & advice, conceptualizing & creating technical solutions based on research & investigation to solve complex problems related to the design & deployment of high-tech telecommunications systems. Research & plan architectural designs & standards used to plan & guide strategic & tactical telecommunications activities. Translate business requirements & processes into detailed strategic designs for implementation by software engineers & operations personnel. Develop & direct, as well as serve primary technical lead of implementation phase using Solaris, Windows NT, Java, Visual C++ and Unix. Position requires a Master's Degree, or the equivalent, in Computer Science or Computer Engineering & 1 year of prior experience in the job offered or in the related occupation of Engineer, Consultant or Programmer Analyst. Employer will accept a Bachelor's Degree plus 5 years of progressive post-Bachelor's experience as equivalent to a Master's Degree plus 1 year of experience. Progressive experience must include experience with Solaris, Windows NT, Unix, Visual C++, Java. \$92,840/year, plus usual corporate benefits, 9 AM - 5 PM, 40 hrs/wk. Mail two copies of resume to Case #200204163, Division of Career Services, Labor Certification Unit, 19 Staniford Street, 1st Floor, Boston, MA 02114. Must have proof of legal authorization to work in the United States.

Software Engineers to design, develop, maintain apps using OOAD, Java, XML, JSP, JavaScript, HTML, JDBC, EJB, JFC, Java beans, CORBA, Weblogic, RationalRose etc; perform reqs/problem analysis, solution design, implementation, documentation on developed apps; provide training and user support for apps; study/evaluate new tech. & methodologies; perform project planning, time/cost scheduling. Require: MS or foreign equiv. in CS/Information systems/Engg.(any branch)/ & 1 yr exp. in IT. Comp. salary. f/t. travel involved. Send Resumes to: HR, Opal Soft, Inc. 3150 Almaden Expwy Ste 205, San Jose, CA 95118.

VeriSign, Inc.

has an opening for a **Senior Manager** (Info Systems) in their Mt. View, CA office to direct west coast information systems operation. Position requires a Bachelor's degree in electronics engineering or related field plus 3 yrs of professional exp. in the job offered or with network engineering management. To apply, send resumes to: M. LaFever c/o VeriSign, 487 E. Middlefield Rd, Mt. View, CA, 94043, and reference job PH. EOE/AAP.

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Elisa Della Rocco, Regional Sales Manager
Agata Joseph, Sales Associate
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Northeast

Donna Pomponi, Director of Emerging Markets
Internet: dpomponi@nww.com
(508) 460-3333/FAX: (508) 460-1237

Mid-Atlantic

Jacqui DiBianca, Regional Sales Manager
Marta Hagan, Sales Associate
Internet: jdibian, mhagan@nww.com
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Internet: dseay, ajoseph@nww.com
(404) 845-2886/FAX: (404) 250-1646

Customer Access Group

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Shaun Budka, Director, Customer Access Group
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James Kalbach, Director, Online Services
Scott Buckler, West Coast Regional Sales Manager
Stephanie Gutierrez, Online Account Manager
Debbie Lovell, District Sales Manager
Internet: knormandeau, jkalbach, sbuckler, sgutierrez, dlovel@nww.com
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Network World, Inc.

118 Turnpike Road, Southborough, MA 01772
Phone: (508) 460-3333

TO SEND E-MAIL TO NWW STAFF

firstname_lastname@nww.com

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NetworkWorld

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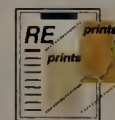
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Environmental

continued from page 1

faster and more compact, the issues of heat and power aren't answered by adding more air conditioning.

Consider Virginia Polytechnic and State University, in Blacksburg, which recently deployed a supercomputing cluster of about 1,100 Apple G5-based systems. To adequately cool the cluster, the university's engineering firm recommended the school use traditional air conditioning units and spread the servers across a 10,000-square-foot area, the entire floor space for the university's main data center.

"[Spreading the cluster across] a 10,000-square-foot design really wasn't an option," says Kevin Shinpaugh, director of research and cluster computing at Virginia Tech and associate director of the Virginia Tech Terascale Computing Facility, which manages the Terascale cluster. He couldn't allocate the entire data center for the cluster because of other systems the university had installed.

Shinpaugh looked for other options for cooling the servers

and finally settled on precision cooling systems from Liebert that suck hot air out of racks and use rack- or ceiling-mounted air conditioning units.

"We had about 3,000 square feet of available space [for the cluster] and the [Liebert] extreme cooling option allowed us to do what we needed to do," he says. "Our only other option would have been to build another building."

Shinpaugh says the school spent about \$2 million for the cooling devices and adding power, but says now the data center has excess power and cooling capacity, and will be able to handle additional systems over the next few years.

"The \$2 million investment allows us to better use the space we already have," he says. "Once we get over the upfront costs, adding to the cluster or building new clusters will be easy."

Mark Nelson, project manager at Applied Materials in Austin, Texas, says he too designed his data center to accommodate increasingly dense configurations. Today, the data center is designed to handle about 75 watts per square foot of power, but only uses about 39% of that capacity.

"We anticipate as we put in more equipment and as equipment is replaced with newer technology that our wattage per square foot is going to start creeping up. We'll start approaching 75%," he says.

Nelson says he runs a redundant power system so there is immediate failover in case of problems and has an extra air conditioner on hand in case heat output spikes above his worst-case scenario.

According to the Uptime Ins-

titute, a consortium of corporations focused on reducing downtime in data centers, the average heat density output in today's data centers is about 28 watts per square foot.

"While that number has been increasing for the past few years, it's still nowhere near the number you'd get if you used blade servers," says Kenneth Brill, executive director of the Uptime Institute. "When you go to blade servers, you could reach 400 watts a square foot in a large deployment."

Brill says some blade users have reported as much as 14 kilowatts of heat output per rack, about the same amount of heat given off by two household electric ovens.

Cees de Kuijer, infrastructure manager at Capgemini, a consulting and outsourcing firm, says he'll wait for blade server technology to evolve before bringing the compact slices of computing power into his data center.

"Blade servers present several problems — one of them is heating, the other is powering," de Kuijer says. "We basically have a ban on blade servers at this moment on the procurement side."

A research note that Gartner published late last year cautioned enterprise users to think carefully about deploying new technologies such as blade servers and increasingly dense rack-mounted systems.

"Without careful planning and coordination between the data center facilities staff and the server procurement staff, data centers will not be able to increase power or cooling in line with increases in server deployments," the Gartner analysts wrote. "We believe that, through year-end 2008, heat and cooling

Hot issues

Having dense servers means more heat and more power consumption in smaller spaces. As corporations deploy these new systems, they must work closely with their facilities teams to ensure their data centers can stand the heat. A few tips:

- **First things first:** Do a realistic analysis of cooling capabilities and power availability before planning new deployments.
- **Make room:** Ensure that there is enough room in the back of racks so that cables don't obstruct airflow.
- **Look up:** Consider technology that moves hot air out of the top of racks and cools from the top down.
- **AC/DC:** Evaluate DC power alternatives, which are typically less expensive.
- **The dotted line:** Don't overdo it with perforated tiles; focus them in cool aisles.
- **Plug holes:** Be sure cable cutouts behind or underneath racks don't let too much air escape, reducing airflow pressure.
- **Spread things out:** In some cases, having more open space to ease power and cooling requirements makes more sense than pushing for maximum density.
- **Keep your eye on advances:** Vendors are introducing servers with multithreading and multicore technologies, which provide performance improvements without big jumps in heat and power.

requirements for servers will prevent 90% of enterprise data centers from achieving the maximum theoretical server density."

That is not to say that businesses can't enjoy the benefits of getting the processing power they need in fewer square feet of often-costly data center space. Gartner says most enterprise server vendors offer assessment services to help customers determine their power and cooling limits.

Companies such as Liebert and American Power Conversion provide AC and DC power products, and precision cooling devices aimed at cooling denser systems. Hardware vendors and chip manufacturers also are focused on the issue, with lower-power chips from Intel and Advanced Micro Devices. Intel plans to add power-management technology to its Itanium and Xeon processors in the next year or so, letting users set power thresholds and creating CPUs that can be cycled on and off depending on needs.

Nevertheless, the need to monitor power and heat concerns within the data center continues to grow, especially with companies rolling out distributed computing architectures such as clusters and grids.

Toshiba America Electronic Components opted to use specialized Intel-based servers from Rackable Systems, along with the company's distributed DC power technology, to deploy server clusters to run electronic design-

automation applications in its data centers in San Jose and Marlborough, Mass.

Richard Tobias, vice president of the ASIC and Foundry Business Unit of Toshiba America Electronic Components in Seattle, says that because the DC power supply is smaller than traditional AC units, it puts out less heat and is therefore less susceptible to overheating and outage. In addition, the rackable servers are designed for high-density deployments and sit back-to-back in racks with the heat forced out of the top of the unit.

"The main factors we were looking at were the cost per rack to build something out and the kind of compute density you can get," Tobias says. "The power savings [with DC conversion] meant that you can put more servers on the rack and do more with the rack."

The bottom line is that IT managers need to work closely with their facilities teams to understand exactly how increased power and cooling requirements will affect server deployments. In many cases, data centers have sufficient airflow and cooling, it's just being directed inadequately, the Uptime Institute's Brill says.

"Just by making some relatively minor changes people can recover enough capacity to get by for a couple of years," he adds. ■



More online!

In *Network World's* Web cast, consultant Johna Till Johnson offers practical advice for structuring what's being called "The New Data Center."

DocFinder: 1948

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THIS WEEK'S QUESTION:

Which company ranked as the most productive, in terms of revenue per employee, on this year's Network World 200 list?

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BackSpin Mark Gibbs



Not sweating the small stuff

When you've got a business to run you shouldn't have time to sweat the small stuff. This means, for example, that if your company produces widgets and you are responsible for ensuring widgets get produced profitably, then you are unlikely to worry about where the

janitor stores the hand soap or arranging for white lines to be repainted in the parking lot.

There are only so many working hours in the day, so there are whole realms of things you, in your management role, shouldn't pay attention to.

Unfortunately it appears that the job of politicians is not so clear-cut. State Sen. Liz Figueroa (D-Fremont) seems to think that in the panoply of weighty matters she must apply herself to, the issue of Google's nascent free e-mail service demands legislation.

Actually, to be accurate, the bill Figueroa is working on, SB 1822 (www.nwfusion.com, DocFinder: 2241), is written to be rather more general than just applying to Google. It aims to "prohibit a provider of e-mail or instant-messaging services, as defined, that serves California customers, from reviewing or evaluating the content of a customer's e-mail or instant messages for marketing purposes, as defined, except with the customer's, or with the customer's and the sender's, consent."

According to various news stories, what appears to have triggered this piece of fevered law making was the announcement of Google's free Gmail service, which, in exchange for giving consumers 1G byte of message storage, will place advertisements in received messages. In Google's terms of service, the company states that Gmail boxes will be scanned to build user profiles for ad targeting.

According to CNet, Figueroa is quoted as saying that this "will be the first law in the nation to ensure that this type of technology is never used to create files on consumers." She went on: "It forbids e-mail providers from retaining personally identifiable information that is obtained from the use of the technology; it forbids human access to the information; and forbids the transfer of information to third parties. And it requires that when consumers delete e-mail, the file is deleted and is not retained somewhere."

I am all for legislation to protect consumer privacy, but this bill smacks of micromanagement of a market — a bad idea. Laws should not be created to control technology; they should address the issues of how data is acquired and used.

What I'm suggesting is that bills such as this one shouldn't be about the behavior of "e-mail providers"; they should be about how businesses should handle their market data on consumers.

Moreover, they should address these issues conceptually because technology is too slippery — what is today's hot technology or product is next week's aging and obsoleted IETF RFP.

So why is Figueroa all fired up about e-mail providers? Where was she when Experian and the other consumer credit companies were getting powerful? What is she going to do about it now? What is the senator planning to do about the atrocious error rates in the databases of the credit reporting companies (or should that be "credit guessing companies")?

Senator, as much as I applaud what I think are your motives, I am depressed to see you wasting my time and my money trying to create laws for something that many consumers willingly will opt into. If you want to be seen to be doing something important, develop legislation that will really address a serious issue, such as the spam problem.

But no, it appears that tilting at this particular windmill is far more interesting (and, for that matter, PR-friendly), and once again it seems that the politicians focus on the sizzle and not the bacon because there's less mileage in the bacon. That sizzle you hear, senator? That is the sound of your credibility boiling away as you sweat the small stuff.

Lay down the law at backspin@gibbs.com.



'Net Buzz News, insights, opinions and oddities

By Paul McNamara

Send e-mail . . . no, really, that's fine

How much permission does permission-based e-mail require of a responsible business sender?

The question arose recently as I pondered my unusual interactions with an anti-spam vendor called Habeas, which some of you might know as the company that uses trademark law and poetry — haiku — to do battle with the purveyors of junk e-mail. (You've got to root for them if for no other reason than the novelty.)

First, a little background: As is the case for most anyone in my line of work, a number of press releases drop into my in-box every day from companies that have no clue as to what *Network World* covers, never mind the peculiar interests of this particular column. While mildly annoying, it's an occupational reality that journalists learn to accept, a) because there's precious little that can be done about it, and b) because you just never know where the next story or column idea is to be found, so discouraging correspondence of any kind carries the risk of missing something good.

Back to Habeas: I remember being slightly taken aback when a public relations representative from the company first asked my permission to send me e-mail. Part of my surprise sprung from the fact that I already had conducted a telephone interview with a Habeas executive, which seemed to me to be a strong signal of my interest. However, what any journalist would have thought went without saying apparently did not in this case.

I was taken aback even further several months later when someone from the same company called and asked if I would be so kind as to reaffirm my permission to be on their press list. . . . Permission granted.

The third time they asked — two weeks ago — I had to ask my own question: Can't you people take yes for an answer? (I didn't put it that way at the time but wish I had.)

The Habeas public relations professional, Tim Cox, was kind enough to explain: The latest inquiry was a result of his having recently signed on to represent Habeas and not knowing that his predecessor only recently had done the same thing.

"As far as our policy regarding this . . . well, since we're in the business of certifying the reputation of e-mailers we do take list management very seriously," Cox says. "So, when I was handed the 'opt-in' list of editors and analysts, I felt it was important to double-check that it was bona fide."

Sounds all well and good — even noble — but the truth is that Habeas is going an extra couple of miles here on a matter that most vendors don't even manage baby steps.

Any permission-based e-mail discussion begins with opt-in as the baseline, of course, unless those doing the talking are Washington lawmakers or the Direct Marketing Association.

But let's not get carried away.

Technology's next contribution to road rage

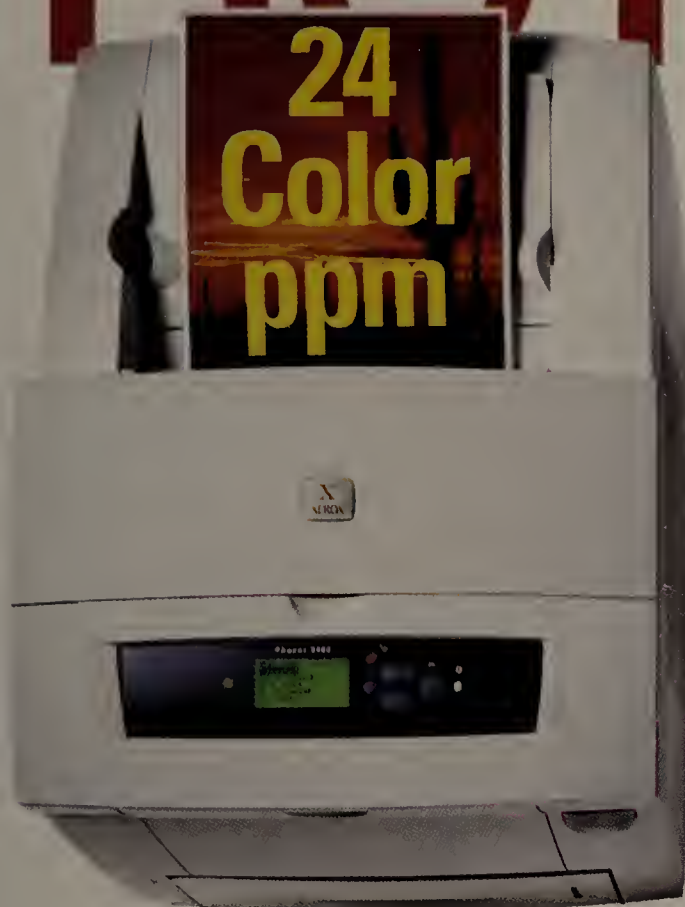
Is there any doubt any longer that cell phone manufacturers are going to bring about the end of civilization as we know it?

Last week Samsung announced that it would be foisting a new phone upon the public that is capable of receiving satellite television signals. For the time being, it will work with a satellite service being developed by TU Media in South Korea and Mobile Broadcasting in Japan. How long this gadget will take to jump the pond and land here in the States was not spelled out.

As if peeping camera phones, sappy ring tones and text-messaging services that have millions hooked on "American Idol" aren't bad enough, now we're going to enjoy the spectacle of motorists watching their favorite soaps while they zig and zag through traffic.

You cannot have my cell phone number, but the e-mail address is buzz@nww.com.

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